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Fringe Banking and Financialisation: Pawnbroking  
in pre-famine and famine Ireland

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# Fringe Banking and Financialisation: Pawnbroking in pre-famine and famine Ireland

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## Abstract

Pawnbroking, one of the oldest and most accessible forms of credit, was a common feature of life in pre-famine and famine Ireland. This paper studies the role of pawnbroking in the Irish financial system during this important period, applying insights from modern studies on fringe banking to analyse pawnbroking in Ireland. In the period under study, a formal tiered financial system existed; regulated joint stock banks offered services to industry and the better off, while fringe banks provided financial services largely, but not exclusively, to unbanked groups. The main findings are that pawnbrokers provided a steady source of credit throughout the island of Ireland and that this credit stream was more durable than that provided by alternative financial service providers in the fringe banking market, especially during the famine. Our findings suggest a nuanced interpretation is needed as we find strong interrelationships between the various financial service providers.

JEL Codes: G21, G51, N23

Keywords: Fringe banking, financialisation, pawnbroking, Ireland

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## ***Introduction***

‘Fringe’ banking (pawnbrokers, cheque cashing operators and pay-day lenders), an established, growing,<sup>1</sup> and competitive<sup>2</sup> provider of financial services to a wide swathe of society, has boomed in the last three decades (Caskey and Zikmund 1990; Caskey, 1994, 2005; Brooks 2006; Rivlin 2010; Prager 2014, Rowlingson, Appleyard and Gardner 2016; McMahon 2018). Yet it is derided by its mainstream competitors (Kubrin et al. 2011) and the providers are accused of charging ‘extortionate’ interest rates. Empirical studies have attempted to explain determinants of fringe banking and their effects on various individual and social outcomes; the jury is still out on whether fringe banking is bane or benefit.<sup>3</sup> Using Ireland as a case study, this paper offers an historical perspective to the literature on ‘fringe banking’ and identifies the persistent importance of one type of fringe bank – pawnbrokers – as a source of credit and liquidity to the unbanked as well as to the cash-strapped, but asset-rich, middle classes.

As one of the most accessible forms of credit on the British Isles, pawnbroking was exceptionally common in nineteenth-century Britain and Ireland. The role of the pawnbroker, traditionally referred to as the ‘people’s banker’ or ‘poor man’s bank’ (although used by the middle classes and wealthy as well) was to provide liquidity to households (Fitzpatrick 2001, p. 55; Tebbutt 1983, p. 22). Many contemporary social commentators and modern scholars, perhaps viewing pawnbroking more from a moral rather than a strictly economic perspective, have portrayed pawnbrokers negatively. For example, Daniel O’Flinn, parish priest of Aghada, stated, ‘I believe them a great nuisance and temptation to the poor in general, for they cannot always release what they have pawned’ (BPP 1836, Supplement to appendix E, p. 193). Meanwhile, Clear (2007, pp 31-32) notes that, ‘pawning meant that those with the least money paid over and over again for their meagre goods’.<sup>4</sup> Notable contemporaries, however, saw things differently. The Marshal of Dublin, whose office acted as the registrar of pawnbrokers in Ireland, asserted that, ‘it is a well known fact that the more prosperous a city or town is, the more prosperous it is for the

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<sup>1</sup> In the US the number of pawnbrokers more than doubled from 4,849 in 1986 to 11,683 in 2003, peaking at 12,356 in 2001 (Caskey 2005). As of 2018 there are approximately 10,000 shops in the US catering to 7.4 per cent of all US households: National Pawnbrokers Association FAQ 2018:

<https://nationalpawnbrokers.org/pawn-industry-faqs/>

<sup>2</sup> Pawnshops now offer innovative services including online pawning: <https://blog.pawnguru.com/>

<sup>3</sup> Consumer protection agencies see payday loan terms, often more than 350 per cent annually, as extortionate (Ellihhausen and Lawrence 2001, Stegman 2007) and the marketing practices of payday lenders as predatory (Ellihhausen 2009), leading to reductions in borrower well-being (Melzer 2011). Other studies show that these loans can impose a smaller burden than paying late fees, re-establishing a utility, or paying a bank overdraft fee, thereby improving lives (Morse 2007, Morgan 2007, Morgan and Strain 2008), and can be offered by traditional financial institutions, removing detrimental features and promoting saving, to the benefit of both borrower and lender (Stegman 2007).

<sup>4</sup> Clear cites Fitzpatrick’s (2001) narrative account of pawnbroking.

pawnbroking trade, and consequently it is so with a nation.’ (Reports of the Corporation of Dublin 1886, p. 40).<sup>5</sup>

This paper examines whether pawnbroking is better described historically as the last desperate option of the truly poor, as often portrayed by nineteenth century social reformers such as Smiles (2002 [1856]), or a valued and legitimate financial service for a wide swathe of the population. Moving beyond anecdotal accounts, this study outlines the geographic distribution and determinants of pawnbroking in early nineteenth century Ireland. We use a cross-section of pawnbrokers in the year immediately prior to the famine, relying on a newly compiled, manually collected and collated data set of all available pawnbroker information for the period 1838-1848. These data are from published parliamentary papers and other contemporaneous sources. Like many modern studies, it is difficult to observe pawnbroking loan use directly (Bhutta 2014), but by collating sources this study finds evidence of ubiquitous pawnbroking activity. Because pawnbroking is only one of many ‘fringe banking’ institutions, this study also explores its relationship with other microfinance institutions, in particular microsavings and microcredit.<sup>6</sup> For the Irish of minimal means, the so-called industrious poor, there were two primary sources of formal credit – pawnbrokers and Loan Funds, either Loan Fund Societies or Reproductive Loan Funds – and one saving institution, Trustee Saving Banks (McLaughlin & Pecchenino 2021).

The paper proceeds from here by giving an overview of the empirical literature on fringe banking followed by an outline of the legal environment. The subsequent sections explore the supply- and demand-side of pawnbroking in pre-famine and famine Ireland.

### ***Fringe banking and pawnbroking***

‘Fringe banking’ is a term associated with alternative providers of financial services relative to retail banks. It encompasses a wide array of service providers including payday lenders, check cashers, pawnbrokers, rent-to-own stores, and subprime mortgages, as well as a combination of the above (Caskey 1994, Graves 2003). In all cases these providers of credit charge more for their services than retail banks while providing credit, often without credit checks, when retail banks will not. The focus of this section is on pawnbroking, the original fringe banking institution, as other providers did not exist in nineteenth century Ireland.<sup>7</sup>

Today, pawnbrokers are still a major source of credit throughout the world (Bouman and Houtman 1988; Lamberte 1988; Skully 1994; Ismail and Ahmad 1997; World Bank 2013). They

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<sup>5</sup> Pawnbrokers were often held in high esteem as recognized providers of economic and social good in 18<sup>th</sup> century England (Tomkins 2003).

<sup>6</sup> The unbanked are more likely to use fringe banking services (Fox and Woodhall 2006 ; Visano 2008).

<sup>7</sup> Many studies cited below discuss ‘payday loans’ which include pawnbrokers who provide both services. See Stegman (2007) for an overview of the payday lending literature.

help reduce transaction costs, because pawnbrokers are not interested in the use of the funds proffered, and overcome the asymmetric information problems that plague financial intermediation by providing fully-collateralized credit. Pawnbrokers make loans based on the appraised value of a pledge, the collateral, giving the borrower a percentage of this valuation. When a loan is repaid with interest, the borrower redeems their pledge. If the borrower defaults, the lender assumes ownership of the pledge then sells it to recoup costs and make a profit.

Caskey(1994, p. 112), in a study of US pawnbroking in the 1980s, suggests four reasons for the high cost of borrowing, as indicated in table A1 for 19<sup>th</sup> century Ireland and Britain: first, all collateral is individually assessed and stored locally; second, scale economies are unrealised because customers patronize local brokers; third, borrower transportation costs create local monopolies; and fourth, collateral storage on site generates high security costs. This leads to ‘geographic areas [that] are generally served by numerous, dispersed [monopolistically competitive] fringe banks, which operate at less than their most efficient scale’ (Caskey 1994, p.114). Minkes’s (1953) findings for British pawnbroking generally agree with those of Caskey, noting in addition that, where the interest rate chargeable is constrained by statute, competition could manifest itself in the proportion lent on the value of the pledges.

As national data on fringe banking is not readily available (Stegman 2007), the empirical literature has divided into two strands: one estimates the spatial determinants of fringe banking and a second estimates the impact of fringe banking on economic and social outcomes. Both branches use cross-sectional spatial data to address empirical questions. Some studies focusing on social and economic impacts have access to time-series data from specific lenders.

The spatial determinants of fringe banking consider several hypotheses: the retreat/availability of commercial banks and thrifts (spatial void), educational levels, poverty rates, population density, presence of minorities, and differences in inter-state regulatory environments. Studies range in unit of spatial analysis from state to county (Caskey 1991, 1994; Shackman and Tenney 2006, Fowler et al 2014, Prager 2009, 2014, Gallmeyer & Roberts 2009, Cover et al 2014, Graves 2003; Smith et al. 2008, Faber 2018). Most studies are cross-sectional, and findings vary according to the data and methodology adopted. While studies using similar data tend to agree on key factors, demographic (ethnicity, poverty, education) correlates and influence of regulation (more stringent regulation reduces the number of fringe banks), there are differences in terms of the relationship with the wider financial system. For example, Prager (2014), analysing fringe banks per million at county-level data, finds that banks are correlated positively with pawnshops in urban areas and negatively with fringe banks in rural areas. While Fowler et al. (2014), analysing the number of pawnshops by county (using count models), find banks and pawnshops are uncorrelated.

Despite several high-profile studies, the literature on outcomes associated with fringe banking remains inconclusive as to whether ‘fringe banking’ is a beneficial source of short-term credit or a high interest option that entraps borrowers in a cycle of debt (e.g. Bhutta et al. 2015, Morgan et al. 2012, Zinman 2010 versus Melzer 2011, Carrell and Zinman 2014). A related strand of literature focuses on the relationship between fringe banking, specifically pawnbroking, and crime (Fass and Francis 2004, Lee et al. 2014, Kurbin et al. 2011, Wilcox & Eck 2011)). The results are varied and inconclusive.

### ***Pawning in Ireland: institutional context and data constraints***

In contrast to continental Europe, pawnbroking was a privately-operated trade in Ireland. Scant archival material survives relating to pawnbroker activities. Instead, the main sources for analysing nineteenth century pawnbroking are a series of social reform-motivated parliamentary enquiries (BPP 1835, 1836, 1837-38, 1867-68) and government publications (e.g. BPP 1849). Laws enacted in the 1780s regulated pawnbroking in Ireland for over 180 years, with the specific Irish laws continuing to be enforced in Ireland after the Act of Union in 1801.<sup>8</sup> In 1843 a bill to reform Irish pawnbroking was proposed (BPP 1843b), but did not progress beyond committee stage.<sup>9</sup> Extensive lobbying by the Pawnbrokers Association (established in 1836) ensured it was unsuccessful (Hardaker 1892, pp 62, 73-4; BPP 1867-68, p.2). Following parliamentary enquiries in the 1860s, pawnbroking laws were reformed in Great Britain, but these reforms did ‘not extend to Ireland’ (35 & 36 Vict., section 2; Hancock 1876).<sup>10</sup>

In this paper we manually collected and collated available pawnbroker information for the period 1838-1848 from published parliamentary papers. These data provide information on the location of pawnbrokers, the aggregate amount of credit provided, the number of loans (tickets), and, in a small sample, the redemptions of pledges. Before discussing these data in detail, we contextualise the institutional structure and explain why these data have been underutilised in existing studies.

The Irish pawnbroking acts stated that the Marshal of Dublin was the register of pawnbrokers in Ireland and an auctioneer of forfeited pledges in the city of Dublin. The office of the Marshal of Dublin was established in the third year of the reign of James II [1688]. The initial functions of the office were: ‘Governor of the City Marshalsea, for confinement of debtors under warrants from Courts under control of the Corporation; storage of goods seized under City attachments;

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<sup>8</sup> Irish Parliament, 26 Geo. 3 & 28 Geo. 3; Irish Republic, 31/1964.

<sup>9</sup> Raymond’s (1978, pp 19-20) thesis is based on the mistaken belief that the 1843 bill reforming Irish pawnbroking was enacted.

<sup>10</sup> From the outset there was no reference to Ireland in any of the pawnbroking bills: BPP (1870b, 1872b, 1872c).

and attendance on the Lord Mayor on state occasions' (Reports of the Corporation of Dublin 1886, pp 20-21). These functions became obsolete, and the position evolved into a more ceremonial role, although with the requirement of regulating the pawnbroking trade throughout Ireland.

Pawnbrokers were required to submit monthly returns to the Marshal of Dublin, who was required to submit an annual abstract to parliament. The legislation stipulated that pawnbrokers who did not submit returns would be fined 40 shillings (£2). The requirement of submitting returns was not enforced but, instead of issuing fines for non-compliance, an annual sum of £1 was requested from pawnbrokers by the Marshal in lieu of their returns (BPP 1835, pp 36-37; BPP 1837-38, Qs 886-887; *Reports of the Corporation of Dublin* 1886, p. 36).<sup>11</sup> This custom was alleged to have continued throughout the nineteenth century giving the Marshal 'a sinecure income of considerable amount by compromising an important duty of the office' (*Reports of the Corporation of Dublin* 1886, p. 23). The issue was compounded by the position of the Marshal being temporary, elected at the behest of Dublin Corporation, and unsalaried and dependent on fees 'legally payable to him by virtue of his office'.<sup>12</sup> Thus, when in 1886 the then Marshal, John S. Carroll, attempted to enforce compliance from pawnbrokers, his requests were ignored. He stated that, 'my only remedy would be to go through the country and sue each individual. This would involve an enormous expenditure, and which my present position would hardly justify' (*Reports of the Corporation of Dublin* 1886b).

Given the sporadic undertaking of duty by various Marshals, surviving pawnbroker data is quite scarce and patchy. Pre-1837 pawnbroker data was under-reported. From 1837, after Marshal John Judkin Butler visited towns and their pawnbrokers (BPP 1837-37, p. 163), a clearer picture of pawnbroking becomes available. Butler's successor, Thomas Reynolds, provided returns for the years 1844-1848, during the crucial years of the Irish famine. Successors to the office in the 1850s and 60s also provided returns.<sup>13</sup> These isolated sources provide a sense of the number of pawnbrokers, around 450-500, equating to c. 55-60 per million capita, and the scale of their activities, pawnbroker loans were in the region of £1-£2 million per annum, see Table 1. These data cover key years during the famine highlighting the 14 per cent year-on-year increase in pawnbroker lending in 1845, lending that was sustained in 1847, only retreating in 1848. The scale of pre-famine pawnbroking activity was similar to other contemporary microfinance institutions but, unlike pawnbrokers, LFSs and TSBs experienced significant declines in activity in the famine

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<sup>11</sup> Unashamedly, one of the Marshals in the early 1830s was alleged to have issued receipts to pawnbrokers who paid the £1 requested in lieu of their returns (BPP 1835, p.37).

<sup>12</sup> Dublin City Council/History, City Marshal, R1/01/03, Dublin City Archive.

<sup>13</sup> E.g. OP 1865/123, OP 1868/22, OP 1868/23, OP 1870/40, OP 1870/42, National Archives of Ireland.



years. This comparison highlights the significance of pawnbrokers as a stable source of credit to the poor during the famine years.<sup>14</sup>

The traditional practice of pawnbrokers is to make primarily short-term loans based on the appraised value of an item giving the borrower a percentage of this valuation.<sup>15</sup> LFS loans were similar but unsecured, with 20-week terms and weekly repayments. In Ireland pawnbroker loan terms depended on the value of the durable pledge (the size of the initial loan), ranging from 6 to 12 months (BPP 1867-68, p. 27). For example, loans were issued up to 80 per cent of the estimated value of durable goods (plate and jewellery), and in the region of 66 per cent or less for non-durable goods (clothes). According to Edward Homan, a Limerick pawnbroker in the 1830s, loan valuations were based on what a pawnbroker would 'get on them after 12 months' (BPP 1837-38, Qs 936-938), taking storage and depreciation costs into account. Interest charges, displayed in Table A1, varied according to the sum lent (BPP 1837-38, p. iv). For loans under £10, pawnbrokers were exempt from usury laws. While Irish rates were higher than those permitted in Britain for most of the period (Ó Gráda 1974, p. 132), British rates were increased after the 1872 Pawnbroker Act.<sup>16</sup> In contrast to pawnbrokers, the legislation imposed ceiling on LFSs discount rates were much lower, initially at 12 per cent and reduced to 8.25 per cent in 1843 (see McLaughlin & Pecchenino 2021, Table 2).

The scope of pawnbroker lending was legally constrained by an easily evaded (BPP 1837-38, p. xv) £10 loan ceiling (28 Geo III, section 19). Above £10 usury laws applied. The market for loans greater than £10 was very competitive with moneylenders, private banks and, from the mid-1820s onwards, joint stock banks (JSBs). Such competition limited pawnbrokers' potential profitability for this class of loans. Yet, in terms of competing with rival microcredit providers (LFSs), also bound by a £10 ceiling, pawnbrokers' ability to operate above the ceiling was crucial to maintaining business operations.

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<sup>14</sup> A strand of LFSs called Reproductive Loan Funds operated in the provinces of Munster and Connaught. They were completely wound up in 1848: *Irish Reproductive Loan Fund Society Act, 1848* (11 & 12 Vict.), c. 115.

<sup>15</sup> The pawnbroking business in Victorian Ireland worked as follows. An individual would bring an, or several, item(s) to a pawnbroker. The pawnbroker would assess the pledge(s), accepting those with estimated resale value greater than inventorying and other transaction costs. The pawnbroker offered the pledger a loan based on the value of the pledge(s). If accepted, the information concerning each pledge would be entered into the pawnbroker's daybook. A duplicate ticket, provided to the pledger for a penny, described the pledge, provided an inventory number, the amount lent, the interest charged (based on the schedule in Table A1), the date at or before which the pledge could be redeemed, and the date at which the pawnbroker could bring the item to sale. More could be charged on pledges of greater value. When the pledged item(s) were redeemed, the pawnbroker's daybook would show redemption date and the interest paid. Pledges not redeemed would be sold, with the date of sale chosen to maximize value. This information would be recorded in the pawnbroker's daybook.

<sup>16</sup> Pawnbrokers Act, 1872 (35 & 36 Vict.), c. 93.

Defaulted pledges were sold at public auction with notice of the auction given to the pledge owners (BPP 1867-68, p. 30),<sup>17</sup> although defaulting borrowers rarely attended (BPP 1837-38, Q. 956; BPP 1867-68, p. 30). The main buyers were dealers in second-hand goods (BPP 1837-38, Qs 340-341; BPP 1867-68, pp 29-30). Private sale was also used to dispose of unredeemed stock (BPP 1849, p.150). Redemption and re-sale were important components of the cyclically sensitive pawnbroking trade.

There were no major barriers to becoming a pawnbroker in nineteenth-century Ireland. All one needed was to purchase a licence and provide two sureties (bondsmen), acquire premises and make loans.<sup>18</sup> There were no minimum capital requirements as pawnbrokers were self-capitalised and did not accept deposits. Legal restrictions were imposed to ensure only people of 'honest repute' obtained licences (BPP 1837-38, p. xii). Part of the motivation for this requirement of upstandingness was the potential association between pawnbrokers and crime, a worry that persists today, since pawnbrokers could launder the proceeds of petty criminal activity. Pawnbrokers found guilty of dealing in stolen goods could be deprived of their licence, prohibited from trading and subject to police search if a search warrant was acquired.<sup>19</sup> Available evidence suggests the fear of losing a licence was sufficient deterrent.

The major distinction between pawnbroking in the British Isles and in Continental Europe was the private nature of pawnbroking in the former and public in the latter. Large municipal pawnbrokers were found throughout Europe.<sup>20</sup> Recent studies have highlighted the significance of their operation in European cities where they catered to a wide array of borrowers from the poorest to the wealthy (Danieri 1991; Führer 2001; Carbonell-Esteller, 2012; Pastureau and Bertrand 2014; Murhem 2015; Carboni and Massimo 2019; Colvin et al. 2020). In the Americas, the European model of municipal pawnbroking was replicated in Mexico City, albeit with a sizeable private pawn market that catered to the poorer residents (Francois 2006)<sup>21</sup>, while the British model was implemented in the United States (Woloson 2009). Attempts to introduce private equivalents to the Continental municipal institutions in the British Isles were undermined by the extensive competition from private pawnbrokers (McLaughlin 2013); however, attempts to replicate

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<sup>17</sup> The case of *Rev Hansborough versus Mr F. Byrne* (Pawnbroker, Great Britain St, Dublin), is a good example of proceedings: *Freemans Journal*, 20 December 1851.

<sup>18</sup> Occasional advertisements in newspapers offered established pawnbroker shops for sale, with or without existing stock, e.g. *Freemans Journal*, 22 January 1846; 20 March 1847.

<sup>19</sup> (28 Geo. 3, c. 49 [I], section 5); BPP (1867-68, p. 10). While evidence is scant, the fear that pawnbrokers provide a way to dispose of stolen goods persists today (Fass & Francis 2004).

<sup>20</sup> Persson and Sharp (2015, p. 152-153) contextualise municipal pawnshops within wider debates surrounding usury.

<sup>21</sup> The Mexican Monte de Piedad was a municipal institution that catered to middle class residents, made loans to private pawnbrokers and governments. It later opened a savings bank to help fund lending operations (Francois 2006).

charitable pawnshops (loan societies) in the United States, although not municipally supported, were relatively more competitive as they adopted price floors, operated primarily in more affluent neighbourhoods, and had much greater capital backing (Woloson 2009).<sup>22</sup>

It is possible to get an insight into the level of competition in Irish pawnbroking from the registration dates in pawnbroker returns. In 1844, 45 per cent of pawnbrokers were new entrants, registered between 1840 and 1844 and new firms made 35 per cent of loans (see Figure A1).<sup>23</sup> A Herfindahl-Hirschman index (HHI) of activity of the 467 pawnbrokers in 1844 reveals that tickets had a HHI score of 0.43 per cent and the score for lending was 0.52 per cent. Based on the names of listed pawnbrokers, 14 pawnbrokers had more than one, usually two, premises.<sup>24</sup> Taking this into account, the reweighted HHIs marginally change to 0.54 per cent and 0.60 per cent. This suggests a highly competitive trade, contrary to Caskey (1994), since a HHI index of zero implies perfect competition. While similar data is unavailable for commercial banks, data from LFSs reveals similar levels of competition; in 1845 the HHI score for LFS lending was 0.83 per cent, only marginally higher than the HHI score for pawnbroking.

Pawnbrokers' practice of lending close to 100 per cent of the value of pledges, rather than engaging in price competition, also suggests a highly competitive industry. This is corroborated by contemporary testimony (BPP 1837-38, Qs. 849, 858-861, 1078-1082, 1091). During the famine period, some pawnbrokers declared that one of the main causes of decline in their business activity was enhanced competition: the entry of rival pawnbrokers in their locality (BPP 1849, p. 151, pp. 153).

Published pawnbroker returns provide only summary information on the number and amount of loans, making it difficult to generalise about capital levels and profitability. There is, however, a detailed return of 22 pawnbrokers from Cork City in 1837 (BPP 1837-38, p. 226). In this sample, mean income, including tickets, was 7.85 per cent of loan turnover, which is very similar to the finding by Minkes (1953, p. 14) of 7 per cent for British pawnbrokers. The mean profit was 4.24 per cent of loan turnover, giving a mean return on capital of 14.54 per cent. For comparison, in 1842 LFSs income to loan ratio averaged 3.62 per cent and profit to loan averaged 1 percent, whilst return to capital averaged 3.95 per cent in 1842.

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<sup>22</sup> Investors in the the Provident Loan Society of New York were a who's who of New York's commercial elite, including J. P. Morgan who invested tens of thousands of dollars in the venture (Woloson 2009, p. 165).

<sup>23</sup> Thirteen pawnbrokers are recorded as having resigned their positions. A further two Dublin-based pawnbrokers were recorded as having died (William Parkes, registered in 1825, and Michael McGarry in 1836): BPP (1845b).

<sup>24</sup> There were three exceptions. William H. Trenwith ran three pawnshops in Cork, Anne & John Higgins had three pawnshops, two in Waterford and one in Cork, and John Slattery had five pawnshops, three in Waterford.

## *The formal microfinance landscape*

Pre-famine pawnbroking is of particular interest in relation to microfinance institutions in nineteenth century Ireland. Existing scholarship on pre-famine and famine Ireland has tended to focus on specific aspects of microcredit but not their interrelationships. Ó Gráda's (1999) study of moneylenders during the famine discusses pawnbrokers and LFSs, but not the relationship between them. Hollis and Sweetman's (1998, p. 353) study of microcredit in pre-famine Ireland focuses on LFSs alone but the authors acknowledge this particular focus ignores the sizeable amount of credit provided by pawnbrokers. Recent work by Goodspeed (2016a, 2016b) on LFSs in Ireland completely overlooks the relationship between LFSs and pawnbrokers and mistakenly conflates pawnbroking and LFSs.<sup>25,26</sup>

In contrast to pawnbrokers, LFSs offered cheap loans without the requirement of providing pledges (Hollis & Sweetman, 1998; McLaughlin & Pecchenino 2021). LFS loans, generally to small holders and hucksters, used various means, including social pressure and weekly instalments, to ensure repayment. LFSs were generally open only one or two days per week. LFSs offered relatively low interest loans, 8.25 per cent APR compared to 25-50 per cent APR charged by pawnbrokers. This price differential should have rung the death knell for pawnbroking (e.g., BPP 1854-55, p. 55). However, although LFS loans were cheap and small from the perspective of the better off, they were much larger than the typical loan from a pawnbroker, a traditional provider of credit for the industrious poor (Ó Gráda 1974) and required sureties as well as an economic rationale for the loan, imposing additional and potentially non-trivial costs on the borrower.<sup>27</sup> Pawnbrokers cared only about the value of the pledge. In fact, the average weekly LFS repayment was approximately the same size as the total average loan from pawnbrokers.

In the peak year of LFS registration, there were 461 (55 LFSs per million capita).<sup>28</sup> LFSs were predominantly rural institutions; there was only one in Belfast in 1841 and none thereafter, and two in Dublin City in 1842. LFSs were designed as charitable institutions whose profits were supposed to be applied to charitable expenditure. LFS pamphleteers claimed that the LFSs were established to provide cheap credit for the 'industrious poor' and specifically to curb the influence

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<sup>25</sup> There is limited evidence to support Goodspeed's (2016b, p.267) claim that pawnbrokers 'reconstituted as loan funds'. Pawnbrokers were registered as sole traders and very few partnerships existed. LFSs operated as mutual societies with depositor-members. Re-registering as a LFSs would imply lower profits, a change in business model and organisational structure.

<sup>26</sup> Although the historical focus on formal providers of credit such as LFSs may be due to the wider availability of preserved records (Honohan 2006, p. 63), the same information is not as prevalent for informal lenders (e.g., the mealmongers, gombeenmen, etc.).

<sup>27</sup> When someone had an urgent need for money or wished to take advantage of lower prices for provisions early in the day, pawnbroking was quicker than waiting on the formalities of a LFS (*BPP 1837-38*, Q. 706).

<sup>28</sup> The 461 figure comes from the 300 LFSs registered with the Loan Fund Board in 1842 and an additional 161 Reproductive Loan Funds that were affiliated with a London board. All Reproductive Loan Funds were closed simultaneously in 1848.

of usurers, such as mealmongers, gombeenmen,<sup>29</sup> and pawnbrokers. A number of LFSs also operated charitable pawnbrokers, Monts-de-Piété. This practice was not always looked upon favourably.<sup>30</sup> Overall, contemporary opinion was divided, with some placing LFSs in the same bracket as, or worse than, pawnbrokers.<sup>31</sup> Porter (1841, p. 216) notes, however, that one of the benefits of the LFS systems was the formalisation of informal credit; deposits in LFSs were derived from former ‘usurious’ lenders who found LFSs attractive as they both provided higher returns and ‘saves them all risk and trouble attendant on lending’.<sup>32</sup>

The availability of credit from pawnbrokers enabled some LFS borrowers to repay their LFS loans and thus to borrow at all. Evidence to the Devon Commission in the mid-1840s alleged that struggling LFS borrowers were obliged to pawn assets to repay loans (BPP 1845, witnesses 431, 538, 983, Q. 30, 27, 22), because their income flow was lumpy but LFS loan repayment schedules were smooth. Those using a pawnbroker’s services were not selling their valuable assets, rather they were smoothing their income flow with the intention of reclaiming their goods. In a subsequent inquiry into LFSs in 1855, Rev. Irwin suggested that LFSs replaced some pawnbrokers, but he also argued that LFSs stimulated the pawnbroking trade as people who could not make loan repayments were ‘forced’ to borrow (BPP 1854-55, Qs 863-871). There is also some anecdotal evidence to suggest utilisation of both services. For example Mr Murphy, a tailor in Kinsale, had debts at both the local LFSs (£3 5s) and pawnbroker (five £1 loans).<sup>33</sup>

Savings Banks, first introduced in the 1810s, were set up exclusively to provide savings services to the poor. By 1841 there were 10 TSBs per million capita. A key distinction between savings banks found in Ireland (and Great Britain) and contemporary savings banks found in Europe and the US was that savings banks in Ireland did not provide credit services, so did not fund local investment. Further, they had annual (£30) and total (£150) deposit ceilings per account over the period of this study. TSBs offered high return but illiquid deposits; they required notice of withdrawal, with this process taking at least a week (Johnson 1985, p. 114). Savers balanced their immediate but uncertain need for liquidity with their need for long-term saving. Liquidity was ensured by holding real assets. As Washington (2006) notes, the unbanked traditionally saved in easily pawnable goods (jewellery or gold). Since pawnbrokers were open every day they could

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<sup>29</sup> See Gibbon and Higgins (1974), Kennedy (1977), and Higgins (1985) for debates surrounding the facts and fiction of “gombeenman” in Irish economic history. Although here the discussion is centred primarily on the post-famine period, particularly 20<sup>th</sup> century experience.

<sup>30</sup> E.g. see *The Nation*, 14 December 1844.

<sup>31</sup> See *Nenagh Guardian*, 18 February 1843.

<sup>32</sup> Higgins shows how there are different uses and origins of the word “gombeen” and that it has come to mean either ‘usurer’ or ‘mealmonger’, and that the earliest use of the term dates to 1862 in Coulter’s *The West of Ireland* in 1862. In the quote above Porter deliberately uses the word ‘usurer’ rather than gombeen, but infers the same meaning as gombeen. See Higgins (1985) for discussion of the etymology of the word gombeen.

<sup>33</sup> *Freemans Journal*, 21 February 1848.

quickly realise the value of tangible savings (Johnson 1985). Long-term financial security was ensured by holding saving deposits.

Pawnbroking developments are relevant in relation to developments in retail banking in the nineteenth century. Ireland possessed JSBs that performed saving and loan functions across their branch network. From 1783 to 1820 the Bank of Ireland was the only joint-stock bank on the island. It operated on a unit bank principle with no branches despite pleas from merchants in Belfast and Cork (Hall 1946, p. 172). Outside Dublin, small private banks were the norm. The 1819-20 Irish financial crisis saw the closure of many private banks, particularly in Munster (Kenny & Turner 2019). It was not until the legal impediments to the formation of JSBs were removed in 1825 that branch banking institutions could again provide banking services (see Barrow 1973). Until they did, effectively after the famine, pawnbrokers, however imperfectly, provided needed financial services locally.

Following the approaches of Caskey (1994), Prager (2014), and Fowler et al. (2014), it is possible to formally assess what factors influenced pawnbroking in relation to other financial institutions in the pre-famine period using information from Marshal of Dublin reports (BPP 1849, pp 154-157).<sup>34</sup> A cross-section of pawnbroker data is analysed for the year 1844,<sup>35</sup> the year preceding the famine, when there were 463 pawnbroking offices recorded making loans worth £1.6m on 11.81 million pledges. This data is arranged by electoral division, it is georeferenced and matched with corresponding baronial divisions (using qGIS software),<sup>36</sup> a level of administrative aggregation used for collecting census returns.

The number of pawnbrokers registered dwarfs the number of LFS at their peak (300), although the number is roughly equal when Reproductive Loan Funds that operated in Munster and Connaught are accounted for. The mean number of pawnbrokers was 1.44 per barony, a value skewed by the high concentration of pawnbrokers in Belfast and Dublin. Excluding these cities, the mean per barony was 1.19. Lending was considerable, totally £1.6 million, excluding Belfast and Dublin this total is significantly lower at £0.9 million, but still a sizeable source of credit. Loans per 100 capita are £12.24 or £11.02 excluding the two cities and the mean loan size is £0.05 (1 shilling). The largest mean loan size is outside the major cities, driven by Munster's active pawnbroking trade (see Table 2).

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<sup>34</sup> Colvin et al. (2020) use a similar approach to analyse the market entry of cooperative banks in the Netherlands in the 1890s, although the distinction there is that pawnbrokers were one of the incumbent institutions.

<sup>35</sup> Data from famine years are not used because of the distorting influence of the famine on the pawnbroker as well as census variables.

<sup>36</sup> QGIS 3.14 Madeira using the 'join attributes by location' application.

Prager (2014) and Fowler et al. (2014) use demographic characteristics, such as race, age, education, and poverty, from the census to study the determinants of fringe banking. The census of Ireland provides relevant data on socioeconomic factors that may have affected pawnbroking. The population at the time of the 1841 census was 8.17 million with pre-famine population density averaging 3.42 people per acre. High concentrations of population in small areas may have created sufficient demand for multiple pawnbroking establishments. Urban areas with higher population may have had a significant proportion of the population excluded from other formal financial lenders (Caskey 1991, pp 92-94).

Although most of the island of Ireland was agrarian in outlook and occupation, an urban society slowly emerged over the nineteenth century. The share of non-agricultural occupations reflects this growing urbanisation and specialism; the associated diversification in occupations may have resulted in credit needs different to traditional agriculturalists and thus a positive association with pawnbroking. Furthermore, pawnbrokers may have been a source of short-term credit for tradesmen, as was the case in Britain (Tebbutt 1983, p. 23), since tradesmen found it difficult to access credit from JSBs (BPP 1884-85, p. 554). While wage data is not reported in the censuses, indicators of poverty are. The percentage of families living in fourth class housing, the lowest quality housing available (Prunty 1998, p. 41), reflects absolute poverty. Access to education, another indicator of poverty, is reflected in illiteracy rates. As illiteracy and fourth-class housing are highly correlated, they cannot be included simultaneously in regression analysis.

In the main analysis the number of pawnbrokers is modelled using count models. Traditional Poisson models assume there is an equality of the (conditional) variance and mean (equi-dispersion). In practice this can be violated when the variance is greater than the mean (overdispersion) (Wooldridge 2002).<sup>37</sup> As a result of overdispersion, a negative binomial model was estimated with the distribution of  $y_i$  (the number of pawnbrokers per barony) given  $x_i$  (control variables):

$$E(y_i|x_i) = m(x_i\beta) \quad (1)$$

The negative binomial model treats dispersion as a parameter that can be estimated. Where the conditional variance of  $y_i$  given  $x_i$  is a quadratic of the conditional mean, there is overdispersion.

A similar format can be used to analyse the amount of loans and average loans. Here the specification is a linear regression using OLS.

$$y_i = \beta X_i + \varepsilon_i \quad (2)$$

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<sup>37</sup> Tests indicate presence of overdispersion ( $p = 0.02$ ), a negative binomial regression (nb2) was chosen to analyse the count of LFSs (Cameron & Trivedi 2013).

The unit of analysis is a barony and both the negative binomial and the OLS models incorporate robust standard errors. Appendices report results for spatial models including spatial lags of both  $y_i$  and  $x_i$ .

The relevant control variables are drawn primarily from the 1841 census and the newly enacted Poor Law. Additional data on LFSs, TSBs, and JSBs were collected by the authors from contemporary sources. The main explanatory variables are poverty (illiteracy), wealth (poor law valuation per acre), financial institutions (LFSs, TSBs, and JSBs), and non-agricultural employment. As there may be other confounding factors provincial dummies are included for the three major provinces: industrial Ulster, commercial Leinster, and food processing Munster (Bielenberg 1991; Bielenberg 2009). See Tables A2 and A3 for full description of variables and summary statistics.

Table 3 presents results of negative binomial models as both incidence rate ratios (IRR) and marginal effects at means. Results are presented including and excluding Belfast and Dublin.<sup>38</sup> The striking result is the close relationship with other financial institutions. Holding everything constant, a one unit increase in the number of JSBs, TSBs, and LFSs increases the number of pawnbrokers by a factor of 1.83, 1.52 and 1.10, respectively, and a one unit increase in non-agricultural employment increases the number of pawnbrokers by a factor of 1.05. In table 3, neither wealth nor poverty are significantly associated with pawnbroking, suggesting that both rich and poor availed of a variety of financial services using the provider that best met their needs. Lastly, the role of Munster is striking. Relative to the other regions it has a very sizeable IRR and marginal effect: in Munster, all else equal, pawnbrokers were a greater source of funds. These results are generally consistent across spatial models reported in the appendix.<sup>39</sup>

Results from OLS models are shown in Table 4, again presented with (columns 1 and 3) and without (columns 2 and 4) Belfast and Dublin. For aggregate lending per capita, JSBs are positively associated with pawn loans. Population density is significantly associated (column 1) but not when Belfast and Dublin are excluded (column 2). Again, Munster has a large positive correlation with pawnbroker loans per capita. In terms of mean loan sizes (columns 3 and 4), the results mirror Table 3. With the various financial institutions and non-agricultural employment positively correlated with average loan sizes, Munster diverges significantly from the other provinces.

The importance of pawnbroking in Munster needs some further elaboration. This may be a legacy of the 1819-1820 banking crisis which hit Munster most heavily (Kenny & Turner 2019); contemporary news reports emphasised the regional impact of the crisis as well as the immediate

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<sup>38</sup> Table A4 presents correlation matrices and Tables A5-A7 present stepwise regressions.

<sup>39</sup> See Spatial regression appendices and results in Tables A8 and A9.



impact on Cork City itself.<sup>40</sup> Contemporaries reported that after the collapse of private banks in Munster, bills of exchange substituted for bank notes (BPP 1823, p. 162).<sup>41</sup> While merchants had provided substantial capital for investment in Cork and wider Munster (Bielenberg 1991, appendix 1), the banking crisis reduced this source of funds as most private banks were merchant partnerships (O’Kelly 1959), and led to a severe regional recession in the early 1820s (Bielenberg 1991, p. 130). The payments problem was somewhat alleviated by the gradual establishment of branches of the newly formed JSBs from 1825 onwards; the Provincial Bank opened a branch in Cork City in September 1825 followed by the Bank of Ireland. This was a slow and rocky process; aggressive branch expansion of the Agricultural & Commercial Bank between 1834-1836 led to its collapse. Commercial banks were initially more reticent to lend to industry than the previous private banking regime. It was only in the post-famine period that the JSBs became a major source of credit to industry (Bielenberg 1991, p. 131). Thus, it appears that pawnbrokers substituted for traditional banking and payment operations in Munster and continued to do so when joint stock banking was in its infancy.

The main parallel between our findings and modern studies is the complementary relationship with other providers of fringe banking and the relationship with conventional banking; particularly these findings align with Prager (2014). Studies of modern financial services stress the growth of a tiered system with regulated financial services for affluent customers and more expensive and less regulated services for the less well off (Fox and Woodall 2006; Faber 2018). In the period under study, a tiered system existed with the regulated JSBs offering services to industry and the wealthy, but our findings suggest that both those of substantial and minimal means used – and used simultaneously – the various financial services of all service providers, regulated or not. We do not document a clear association between fringe banking and poverty. Instead, our findings suggest pawning to be a reliable source of credit to non-agricultural sectors.

### ***Demand side: understanding borrower needs***

Contrary to Clear’s (2007, pp 31-32) contention that pawnbroking represents an activity of the poorest, the Marshal of Dublin describes pawnbroking as an indicator of business activity. Research on pawnbroking outside Ireland illustrates the complexity of pawnbroking as a socioeconomic institution where pawnbroking was used for consumption smoothing and working

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<sup>40</sup> ‘This city, indeed the entire of the South of Ireland, has sustained a calamity which almost completes the climax of its distress, by the failure of one Bank, and the stoppage of another.’: *Freeman’s Journal* (29 May 1820).

<sup>41</sup> The continued weaknesses of private banks exacerbated this problem. For example, Daniel Callaghan, Director of the Provincial Bank of Cork, stated that in the month (March 1826) preceding the parliamentary inquiry on banking in Ireland, Cork had seen the “annihilation” of two private banks one from “failure” and the other from the death of a partner (BPP 1826-27, p.41).

capital (Hudson 1982; Tebbut 1983; Johnson 1985; Tomkins 2003; Führer 2001; Woloson 2009). To improve our understanding of demand for pawnbroking services in Ireland, we analyse information from the revealed preferences of borrowers and use insights from contemporaries.

Looking at mean loan sizes (table 1) relative to wage levels indicates who was pawning.<sup>42</sup> Mean loan sizes from pawnbrokers in the early 1840s were relatively small, two shillings and sixpence (£0.13),<sup>43</sup> yet significant in relation to contemporary average weekly wages, about four shillings and sixpence (£0.23) in the 1840s and less, around two shillings, for the ‘poor’ (Bowley 1899, p. 401). From 1836-1848 pawnbroker loans were approximately 50 per cent of the weekly wages of general labourers in towns, cities, and the countryside. The data suggest that, contrary to the usual perception, pawnbroking was not an activity confined to the poorest.<sup>44</sup> Hugh McCall, a Lisburn based pawnbroker, suggested that it was ‘the folly of such reasoning’ to assume that pawnbrokers only dealt with the poorest wondering ‘how, in the name of all that is absurd, could a Pawnbroker’s profits arise from dealing with those who very seldom have any article to pawn’.<sup>45</sup> Therefore it is reasonable to suggest that pawnbrokers may have been used by a wide variety of people to tide them over short term liquidity issues, such as temporary unemployment, or unexpected disasters, or to fund investment, or emigration.<sup>46</sup> While surviving contemporary pawnbroker accounts are hard to find, evidence from advertised auctions of goods, contemporary reports, as well as thefts from pawnbrokers show a wide array of pledges from a wide variety of customers. Items included gold and silver watches, jewellery including diamond rings, silverware, plate, musical instruments, artworks.<sup>47</sup> The 1837-38 pawnbroker report indicates that higher value pledges such as these were a smaller share of items pledged. The clientele of pawnbrokers from the higher echelons of society had a desire for discretion; at times it was reported this meant giving false information about their name and addresses on tickets.<sup>48</sup> Supportive evidence of such clientele come from cause célèbre

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<sup>42</sup> See Tables A10 & A11 for samples of wages in Ireland.

<sup>43</sup> This is comparable to an average of \$0.62 (£0.13) average pawn loan in New York City in the 1860s (Woloson 2009, p. 104-105).

<sup>44</sup> The market segmentation in Mexican pawning provides a good illustration. The municipal Monte de Piedad had a loan floor of 2 pesos, only accepted higher end silver, and had an average loan of 14 pesos from 1830-1845 [ c. £3.86]. In contrast private pawnbrokers accepted pawns of lesser value, for example sheets worth ½ reales (equivalent to c. 0.06 pesos [c. £0.02]), with average loans reported to be at least ten times lower than the Monte de Piedad, with evidence of loans being 4 reales [0.5 pesos, c. £0.13] (Francois 2006, p. 43, p. 137, p. 299). As Mexico was on a silver standard, pound values are approximated using a silver exchange rates following Salvucci (1994). Also, thanks to Richard Salvucci for explaining the intricacies of Mexican currency and coinage in the Republican era.

<sup>45</sup> *Belfast Newsletter*, 20 March 1838.

<sup>46</sup> Small loans were common features of pawnbrokers everywhere, but as Führer (2001, p. 42) keenly observes, a loan that is only half wages would not have been expected to provide relief for a permanent loss of income.

<sup>47</sup> See *Kerry Evening Post*, 17 June 1848; *Cork Examiner*, 19 June 1848; *Freemans Journal*, 12 October 1850

<sup>48</sup> *Freemans Journal*, 2 May 1846.

that showed (Protestant) clergymen as customers<sup>49</sup> and the ‘heaps of patrician plate’ from the gentry in the possession of pawnbrokers.<sup>50</sup> Dickens even alleged that Irish Members of Parliament habitually frequented pawnshops.<sup>51</sup>

LFS loans, repayable weekly and to a lesser extent monthly, were significantly larger than pawnbroker loans. In the 1840s LFSs loans averaged £3.50 compared with pawnbroker loans of £0.13. Pawnbroker loans were in the range of 80 per cent of LFS weekly repayments. In the 1840s LFS loans were quite sizeable relative to weekly wages, with weekly repayments approximately equal to agricultural and urban wage levels (see table 5). It was argued in the 1850s that LFSs provided a stimulus to the pawnbroking trade (BPP 1854-55, p. 55), and the data in table 2 lend support to this view as it would have been difficult to repay LFS instalments given prevailing wages.

Contemporary social commentary provides some insight into the demand for pawnbroking services. The 1833-36 Poor Inquiry Commission contains references to pawnbrokers, revealing both the attitudes of upper classes to the poor and pawnbroking but also some of the motives of borrowers.<sup>52</sup> The reports from Belfast suggested that availing of pawnbrokers was related to ‘indulging in drink’, but other evidence suggested that pawnbrokers were used to tide people over ‘when there is a want of employment or scarcity of food’ or ‘for the purpose of carrying on a trade’ (BPP 1836, p. 20). In Cork City it was claimed that there was a relationship between alcohol consumption and pawnbroking, but, ‘it was admitted, however, that they [pawnbrokers] are often of great service, by enabling persons in distress to raise money on their goods, and thereby preventing starvation’ (BPP 1836, p. 26). In Derry there was the accusation that pawning was for the ‘purpose of obtaining whiskey’, but there were also ‘those that pledge for the purpose of carrying on some trade, and those that pledge from immediate necessity’ (BPP 1836, p.79).

In Dublin City it was reported that pawnbroking gave, ‘opportunities to the poor to deprive themselves of their little necessities for sums infinitely below their value’ and that it created a temptation to engage in criminal activity because of, ‘the facility which it affords for disposing of property improperly obtained’ (BPP 1836, p. 117). Pawnbrokers were associated with alcoholism of the poor, but this was based on the opinions of middle-class. The poor themselves did not

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<sup>49</sup> Examples include a case involving a Church of Ireland clergyman who perjured himself saying he lost a ticket for pledged firearms but instead sold it and was attempting to defraud the seller of the ticket. *Belfast Newsletter* 15/8/1851; Or the case of a dissenting clergyman who attempted to challenge the pawnbroking acts saying that the pawnbroker had acted illegally in selling his gold watch and chain. *Freemans Journal* 8 August 1851.

<sup>50</sup> *Freemans Journal*, 23 January 1849.

<sup>51</sup> Dickens, ‘My Uncle’. This observation elicited a response from the *Cork Examiner*: ‘It should be among the pledges required of a candidate of doubtful property qualification, that he shall pledge his honour and his word as often as he will – but his watch never’: *Cork Examiner*, 14 January 1852.

<sup>52</sup> i.e. ‘The feelings of shame which formerly prevented pledging have disappeared, and the practice is now resorted to openly and without hesitation.’ (BPP 1836, p. 19).

complain about the pawnbroking system, especially since loans were actually close to the full value of the item pledged. It was asserted that, ‘many of the poor habitually on Saturday and Sunday of each week expend in the public house a considerable part of their earnings, and to supply the pressing wants of their families they have early in the ensuing week to resort to the pawnbroker’s, where they deposit their necessary apparel; these articles they again release on Saturday night’ (BPP 1836, p. 117). However, their ability to redeem their pledge demonstrates that they were not ‘drinking’ their loans. The moralistic overtones when discussing pawnbroking clouded discussion on pawnbroking.<sup>53</sup>

Further information regarding pawning activity is available from BPP (1849), which sought reports from pawnbrokers regarding the state of the poor in the country. These reports represent an interesting vantage point as they occur during a period of intense crisis in the country. What they reveal is that pawnbrokers were used by those who had valuable tangible assets, whether clothes, farming implements, or jewellery. Contemporary newspaper reports corroborate these views that the pawnbrokers had facilitated the poor in the initial years of the famine. A pawnbroker in Bandon reported that loans were £2,500 above usual for the same period of the year but as they were ‘crammed to inconvenience’ they rejected pledges owing to a lack of storage.<sup>54</sup> Similar stories were relayed in other newspapers that pawnbrokers became ‘choked’ and had ‘no more capital to advance’<sup>55</sup>, that pawnbrokers in Skibbereen, Mallow, and Fermoy were closed against receiving any more property at present as pledges,<sup>56</sup> and that borrowers had nothing left to pawn.<sup>57</sup> Once all valuable assets were pledged, profit maximizing pawnbrokers, concerned with their bottom line rather than borrower welfare – the professed concern of the charitable LFS – could provide nothing further to would-be borrowers.

BPP (1849) includes some data on monthly pledges and redemptions for 18 pawnbrokers. The distribution of pawnbrokers is disproportionately from famine affected districts in Mayo (2), Galway (3), and Kerry (6), but also from districts less affected by famine in Leinster (Wexford, Westmeath, and Meath). Here we construct monthly redemption ratios of pledges returned to pledges received by 18 pawnbrokers (see Figure 1),<sup>58</sup> the data covering almost two years of pre-

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<sup>53</sup> For example, in the parish of Kilbrogan in Cork, the Rev. H. J. Newman opined that pawnbrokers, ‘dealings principally carried on with the lowest class, and do much harm - facilitate the working of vice, and cause misery’. Maskeylne Alcock, the resident landlord, was more prosaic. He observed that pawnbrokers were, ‘used generally by the poor, sometimes by the middle class, according to their necessities’ (BPP 1836, p. 200e).

<sup>54</sup> *Nation*, 24 November 1846.

<sup>55</sup> *Kerry Examiner*, 22 December 1846.

<sup>56</sup> *Cork Examiner*, 11 January 1847.

<sup>57</sup> *Freemans Journal*, 5 January 1847.

<sup>58</sup> We use current month ( $M_t$ ) for both pledges returned and pledges received to construct this ratio. An alternative is to use pledges returned in  $M_{t+1}$  relative to pledges received in  $M_t$ , this has little affect on the pattern of the ratio.

famine activity as well as the impact of the famine. These figures illustrate that redemptions were central to the pawnbroking business model. In most cases there were no noticeable breaks in this rate, although an obvious outlier is Ballina in Mayo where the ratio collapsed. A similar finding is reported by Ó Gráda (1999) who reported a sample of pledges and redemptions from six pawnbrokers (New Ross, Gort, Tipperary, Tralee, Loughrea, and Mullingar). The seasonality of pawning supports the view of Joseph Finegan, a pawnbroker from Mullingar, that ‘the numbers pledged and redeemed for the first three or four months in every year, are less than the summer months, in consequence of the spring work and cheapness of provisions’ (BPP 1849).

The BPP (1849) correspondence provides information on what assets were pawned; the articles were primarily clothes, bedding and furniture (e.g. BPP 1849, p.113). Michael Murray, inspector of the Ballinrobe Poor Law Union, believed, ‘that the long existing poverty of the population, has of itself precluded the possibility of their realising, or if realised, retaining property of a description sufficiently valuable to admit of being taken in deposit’ (BPP 1849, p.132). A notable aspect of the data from the 1840s are the seasonality of lending, with pawning greatest in the months prior to harvest as, ‘the stock of potatoes is exhausted and labour scarce’. Redemptions took place following the harvest as, ‘the labourer can support himself on the potatoes he has himself planted, and apply his wages to the redemption of his clothes from the pawn office’ (BPP 1849, p.113).

One of the noticeable aspects from these reports is the composition of those pawning before and during the famine, with the poorest squeezed from the market as they no longer had assets of appraisable value (BPP 1849, p.119). Mr Barron, a poor law inspector, noted how ‘a much better class of people than formerly are obliged to lodge deposits with the pawnbrokers; and that the poorer people’s clothes are often refused, from the fact of their being so bad, and so much worn out’ (BPP 1849, p.122). It was reported that the business of pawnbrokers in Carrick-on-Shannon, Co. Leitrim, ‘confined to the better classes in society, and to the comparatively comfortable farmers, having deemed it expedient to decline accepting of the filthy and valueless rags presented for their acceptance by the poorer classes’ (BPP 1849, p. 133). It was reported that ‘the diminution’ of pawning in Fermoy, Co. Tipperary, in 1847 and 1848, was ‘caused by the peasantry not having any articles to pledge’ (BPP 1849, p. 146). John McCarthy, a pawnbroker in New Ross, Co. Wexford, concurred (BPP 1849, p.151). Newspaper reports corroborate this. For example, both the *Freemans Journal* and the *Cork Examiner* report an increase in pledging of silverware during the famine. The *Freemans Journal* suggested this was a sign of decay (insolvency) in the Irish aristocracy,

whereas the *Examiner* saw it as ratepayers needing greater liquidity.<sup>59</sup> Either way, such was the reported extent of pawning, the price of wrought silver plate fell by as much as 17 percent.

Elsewhere, John Hanagan and Edward Kennefick, pawnbrokers from Dungarvan, observed that the usual clientele of pawnshops ('the working population') were greatly diminished due to either death, migration, or entry to the workhouse that the remaining population was 'totally unable to apply to pawn-offices either to buy, pledge, or redeem; and the remaining part thereof are reduced to utter destitution, and are also unable to resort to the pawn-offices in the usual manner, which in our opinion, is the cause of the pawnbroking trade being so languid as it is at present and very likely to be worse.' (BPP 1849, p. 110).

The practice of weekly pledging of clothes was noted by a poor law inspector in Limerick in the 1840s, 'a practice so common a few years ago, is now almost altogether discontinued; not that the people are less distressed, but from the fact of not having a second suit' (BPP 1849, p.112). This practice pre-dates the famine as it was observed in 1822 in Limerick that, 'many persons pawned the articles of dress, least necessary, in warm weather, and even their bed clothes to procure present subsistence' (BPP 1823, p. 40). Saturday redemptions was common in Britain too, where the working classes pledged their 'Sunday best' for the week and redeemed them for Sunday (Johnson 1985, pp 165-188).

Lastly, the BPP (1849) report contains some information on loans and pledges. While Ó Gráda (1999) highlights how Dublin experienced a decline in mean loan sizes during the famine, this pattern varied across the island.<sup>60</sup> Average loan sizes increased in Cork, remained constant in Limerick and Belfast, but decreased substantially in Waterford and in other towns. Further data on monthly lending are available for a sub-group of 46 pawnbrokers (there are ticket indices for a further 22 pawnbrokers, but these do not include loan amounts). We construct monthly indices of pawnbroker lending and pledging, where weights are based on pawnbroker share of the sample aggregate lending/tickets. Figure 2 highlights the seasonality of these monthly data and indicates a slight decrease in pawnbroker activity. The fact that average pawnbroker loans remain relatively constant supports a changing clientele as the pledges offered were of a similar value but pledged by a different group.<sup>61</sup> Figure 3 plots the pawnbroking loan index relative to other available monthly economic data on money supply (data from Kenny & Lennard 2019). Here we see a similar pattern in activity, which supports findings based on cross-sectional data that pawnbroking was a critical component of the financial system.

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<sup>59</sup> *Freemans Journal* 23 January 1849; *Cork Examiner*, 16 April 1849.

<sup>60</sup> Annual data for major towns are highlighted in Figure A2

<sup>61</sup> Figure A3 in appendices show average loans by county.

In June 1849 Mr Reynolds, the Marshal of Dublin, noted that the ‘pawnbrokers who had previously resided in small country towns in Ireland had almost all disappeared from the country towns where they were located’ as they could not take pledges from the poor of the country.<sup>62</sup> Yet, only a few months later, the *Cork Examiner* noted how a prominent pawnbroker in Tralee received £500 for outstanding loans and had received new pledges, a sign of ‘returning comparative prosperity’.<sup>63</sup> Other evidence, such as occupations reported in censuses (1841 and 1851), showed an increase in pawnbroker numbers between the census years does not support the Marshal’s impression of irreversible decline.<sup>64</sup>

## **Conclusion**

This paper has explored the history of pawnbroking in famine and pre-famine Ireland. Using historical and econometric methodologies, the paper has shown the importance of pawnbroking as an aspect of everyday financial life throughout the island, with highest concentrations in Belfast and Dublin City. Pawnbrokers provided liquidity to Irish households, smoothed income and consumption and provided credit for tradespeople. They did this daily by making fully collateralised loans on clothes, furniture and other household goods, trade-goods, jewellery and plate in a very competitive market. Pawnbrokers’ profits were secured by the value of the goods not the ability of those making pledges to repay. Furthermore, they were equal access, open to the poor as well as the better off and rich.

The determinants of pawnbroking in pre-famine and famine Ireland bear resemblance to findings for modern day fringe banking. Fringe banking has expanded both in reach and services offered in the twenty-first century, as access to formal credit fell because of the financial crisis and the Coronavirus pandemic, which forced individuals to pawn assets to survive and thrive.<sup>65</sup> As is the case today, pawnbrokers in nineteenth-century Ireland met nascent and existing demand, including in the industrialising regions where non-agricultural employment was expanding and where the ‘modern’ financial system, as represented by JSBs, was weak.

The much maligned pawnbroking industry provided funds on the value of the pledge and did not enquire into their ultimate uses, allowing customers to apply funds for pedestrian but crucial

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<sup>62</sup> *Kerry Evening Post*, 27 June 1849.

<sup>63</sup> *Cork Examiner*, 7 September 1849.

<sup>64</sup> Those identifying as pawnbrokers increased from 321 to 452 between 1841 and 1851. Increases were seen in 25 out of 32 counties. Data referenced from Crawford et al. (1997).

<sup>65</sup> e.g. Christine Seib, ‘Debt charities cast a wary eye on waters as loan sharks circle,’ *The London Times*, 25 March 2008. Jason Horowitz, ‘Virus Revives Italy’s Age-Old Shadow Safety Net: The Pawnshop,’ *The New York Times*, 6 July 2020.

activities like ensuring there was food on the table for small farmers and labourers when the potato harvest was not yet dug or for fishermen when the fish were not running.<sup>66</sup> Pawnbrokers also enabled the repayment of LFS loans or the payment of rent, something JSBs and LFSs would have been unwilling to and TSB could not do.

The famine was a watershed moment for the pawnbroking industry. As both customers and brokers emigrated post famine, the history of the Irish pawnbroking industry enters transnational territory. Woloson (2009, p. 71) highlights how, contrary to popular perceptions of pawnbroking being a Jewish dominated industry in the United States, the Irish led the US pawn trade in the post famine years. In some cities this meant graduating from second hand dealing into more lucrative pawnbroking trade; in others, such as Chicago, Irish dominated pawnbroking quite early only later superseded by Jewish brokers. Obvious parallels can be made with other financial experiences of emigrants, notably remittances and the emigrant savings banks (e.g., Anbinder et al. 2019). The Irish appear to export their financial habits (pawning and saving), which begs the question: was it the financially savvy who were most able to emigrate, and those with good saving and investing habits who prospered?

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<sup>66</sup> Woodham Smith (1962)'s classic work on the Irish famine is replete with references to pawnbrokers, including fishermen who pawned their gear "to buy a little meal" (Woodham-Smith 1962, p. 291).



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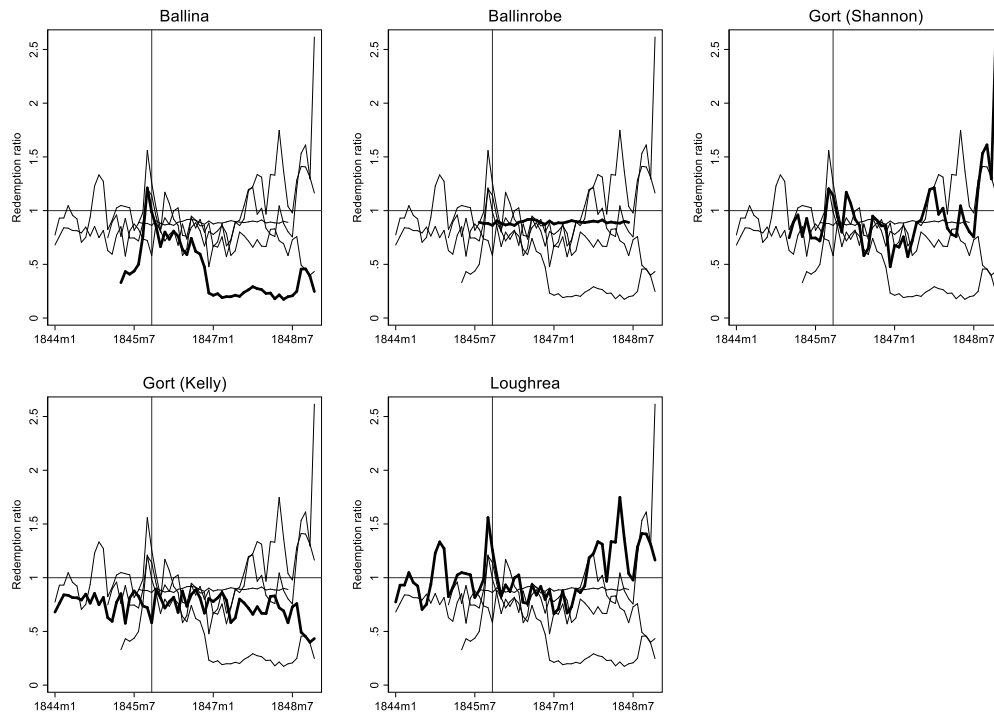
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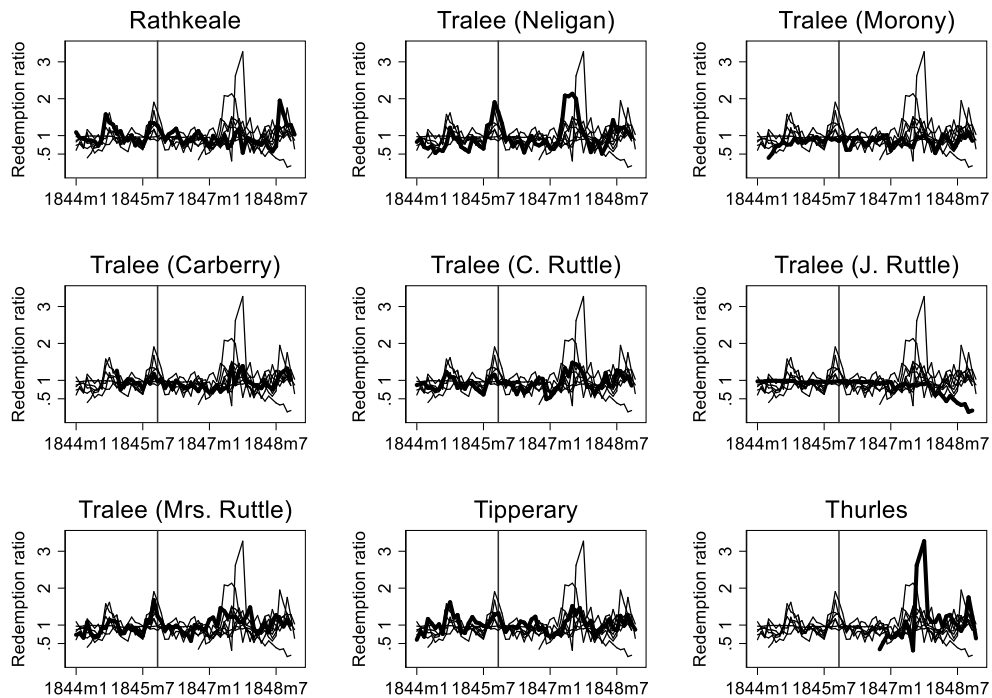
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**Figure 1 Monthly Redemption ratios, January 1844 to January 1848**

*a)Connaught: Ballina, Balinrobe, Gort, and Loughrea*

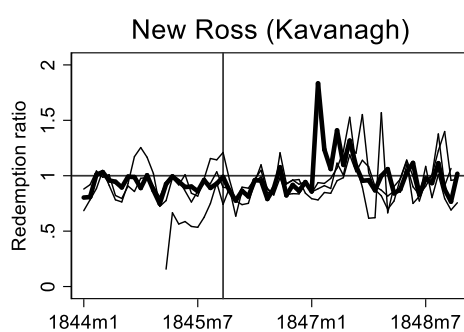
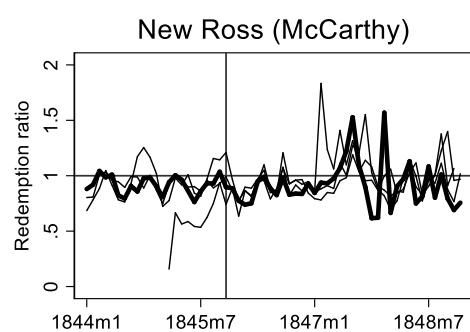
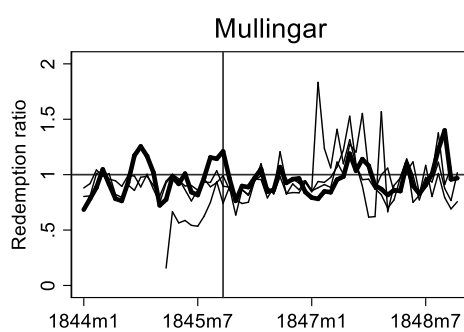
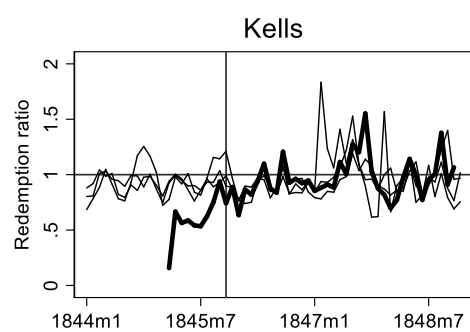


*b)Munster: Rathkeale, Tralee, Thurles, Tipperary*



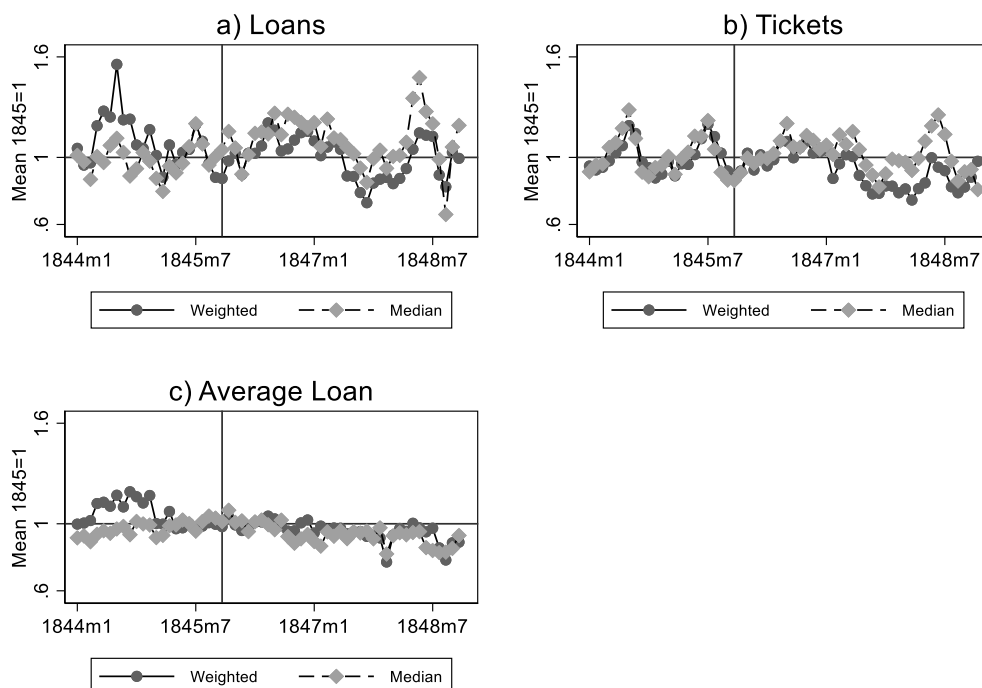


*c)Leinster: Kells, Mullingar, New Ross*



Source; BPP (1849)

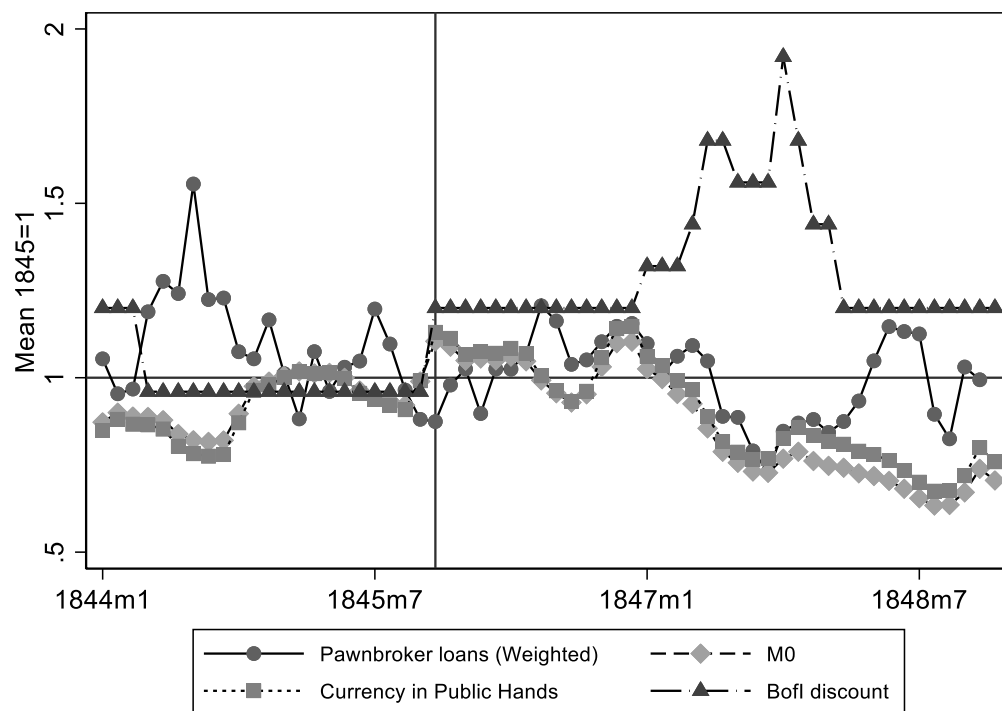
**Figure 2 Monthly Indices of pawnbroker loan amounts (loans) and number of loans (Tickets), mean of 1845=1**



Note: Loan indices, comprised of 46 pawnbroker returns; ticket indices comprised of 68 pawnbroker returns; Mean loan sized derived from 46 pawnbroker returns (amount lent/ tickets). Weights based on share of total amount lent for the 46 pawnbrokers; median is annual median mean loan size by all reporting pawnbrokers. Vertical line at 1845m11 indicates start of famine period.

Source: BPP (1849)

**Figure 3 Monthly Indices of pawnbroker loans, M0 narrow money supply, Currency in the hands of the Public, and Bank of Ireland Discount rate (mean 1845=1)**



Sources: BPP (1849) and Kenny & Lennard (2018)

**Table 1: Pawnbroking returns, 1832-1844**

	Pawnbrokers					Loan funds		Savings banks	
	Aggregate returns	Incomplete returns	<i>Tickets</i>	<i>Loans</i>	Mean loan size	Loans	Pawnbroker loans relative to LFS loans	Savings	Pawnbroker loans relative to TSB savings
	Number	Number	Million	£ m	£	£ m	%	£m	%
1832	39	18	0.30	0.06	0.18				
1833	131	18	3.27	0.48	0.14				
1834	84	17	2.76	0.39	0.13				
1835	225	4	6.52	0.88	0.14				
1836	250	2	6.31	0.85	0.13				
1837	445	66	9.85	1.19	0.13				
1844	462	-	11.81	1.61	0.14	1.70	94.68	2.75	58.57
1845	504	-	13.15	1.84	0.14	1.86	98.80	2.92	62.98
1846	501	-	14.00	1.89	0.13	1.77	106.72	2.86	66.18
1847	486	-	10.79	1.35	0.12	0.86	156.88	2.41	56.00
1848	-	-	-	-	-	0.72	-	1.33	-
1849	-	-	10.91	1.29	-	0.65	198.67	1.20	107.57

**Source:** Pawnbroker data: B.P.P. (1837-38); B.P.P. (1849); 1849 aggregate figures reported in *Irish Examiner*, 29 May 1850; Loan Fund and TSB data, McLaughlin (2014).

**Note:** These data are for private pawnbrokers who made returns to the Marshal of Dublin.

**Table 2 Summary of number of pawnbrokers and pawnbroker loans**

	Barony	Mean	Standard Deviation	Minimum	Maximum
All baronies					
Number of pawnbrokers	322	1.44	4.44	0	42
Loans (£)	322	5007	34,322	0	567,300
Loans per 100 capita	322	12.24	38.61	0	329.89
Mean loan (£)	322	0.05	0.09	0	0.49
All baronies (excluding Belfast and Dublin)					
Number of pawnbrokers	319	1.19	3.11	0	39
Loans (£)	319	2871	11902	0	176,712
Loans per 100 capita	319	11.02	35.17	0	329.89
Mean loan (£)	319	0.05	0.09	0	0.49
Munster					
Number of pawnbrokers	77	2.58	5.43	0	39
Loans (£)	77	7,570	22,809	0	176,712
Loans per 100 capita	77	22.2	58.9	0	330
Mean loan (£)	77	0.10	0.12	0	0.49
Leinster					
Number of pawnbrokers	125	0.79	3.89	0	42
Loans (£)	125	5,773	50,761	0	567,300
Loans per 100 capita	125	10.1	32.3	0	244
Mean loan (£)	125	0.03	0.06	0	0.30
Ulster					
Number of pawnbrokers	72	1.96	5.16	0	41
Loans (£)	72	3,690	15,513	0	129,238
Loans per 100 capita	72	10.3	28.1	0	188
Mean loan (£)	72	0.06	0.08	0	0.36
Connaught					
Number of pawnbrokers	48	0.50	1.41	0	9
Loans (£)	48	877	3,208	0	21,610
Loans per 100 capita	48	4.8	19.5	0	125
Mean loan (£)	48	0.03	0.06	0	0.18

**Table 3 Negative Binomial Regression of the number of pawnbrokers in 1844**

	(1)	(2)	(3)	(4)
	Incidence rate ratios		Marginal effect at mean	
Loan Fund Societies	1.10*	1.12**	0.204*	0.212**
	(0.056)	(0.058)	(0.109)	(0.106)
Joint Stock Banks	1.83***	1.83***	1.280**	1.159**
	(0.215)	(0.211)	(0.583)	(0.568)
Savings Banks	1.52**	1.39*	0.888**	0.631*
	(0.247)	(0.241)	(0.379)	(0.353)
Non-agricultural employment	1.05***	1.05***	0.096**	0.094**
	(0.011)	(0.011)	(0.040)	(0.041)
Illiteracy	0.88	0.80	-0.279	-0.418
	(0.915)	(0.851)	(2.222)	(2.045)
Poor Law Valuation per acre	0.99	0.97	-0.014	-0.060
	(0.005)	(0.052)	(0.011)	(0.104)
City	0.43	0.72	-1.774	-0.630
	(0.247)	(0.312)	(1.488)	(0.952)
Leinster	0.77	0.71	-0.557	-0.657
	(0.380)	(0.358)	(1.085)	(1.028)
Munster	3.69***	3.73***	2.771**	2.530**
	(1.488)	(1.529)	(1.144)	(1.113)
Ulster	1.04	0.98	0.087	-0.033
	(0.548)	(0.531)	(1.112)	(1.040)
Population density	1.00	0.99	0.002	-0.011
	(0.013)	(0.070)	(0.027)	(0.135)
Constant	0.07***	0.07***		
	(0.067)	(0.066)		
Log alpha	0.84	0.87		
	(0.178)	(0.175)		
Observations	322	319	322	319
Model chi-square	409.49	180	409.49	180
df	11	11	11	11
Loglikelihood	-354	-343	-354	-343
Pseudo R2	0.21	0.20	0.21	0.20

Column 1 & 2 robust see form in parentheses, Column 3 & 4 Robust standard errors in parentheses (delta-method standard errors), \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 4 OLS regressions of Pawnbroker loans per capita and mean loan sizes 1844.**

	(1)	(2)	(3)	(4)
	Loans per capita	Loans per capita	Mean loans	Mean loans
Loan Fund Societies	-0.75 (0.796)	-0.41 (0.769)	0.011*** (0.003)	0.012*** (0.003)
Joint Stock Banks	16.67*** (4.871)	16.41*** (4.93)	0.022*** (0.005)	0.022*** (0.005)
Savings Banks	-0.54 (5.779)	-3.64 (5.812)	0.032*** (0.011)	0.025** (0.011)
Non-agricultural employment	0.28 (0.224)	0.40 (0.254)	0.001*** (0.0004)	0.001*** (0.0005)
Illiteracy	10.69 (11.258)	11.01 (10.819)	-0.006 (0.037)	-0.007 (0.037)
Poor Law Valuation per acre	-0.06 (0.184)	-0.03 (1.572)	0.0002 (0.000)	-0.0002* (0.0002)
City	1.05 (26.776)	29.76 (22.033)	-0.058 (0.042)	-0.015 (0.026)
Munster	12.95** (6.108)	13.56** (6.027)	0.062*** (0.015)	0.063*** (0.015)
Leinster	5.39 (4.035)	4.52 (3.856)	-0.002 (0.013)	-0.003 (0.013)
Ulster	-6.12 (4.401)	-6.71 (4.291)	0.005 (0.015)	0.003 (0.015)
Population density	2.01*** (0.671)	0.11 (2.237)	-0.001 (0.001)	-0.001 (0.0002)
Constant	-15.27 (11.440)	-17.491 (11.641)	-0.030 (0.034)	-0.036 (0.034)
Observations	322	319	322	319
R-squared	0.41	0.30	0.41	0.40

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5 Loan Fund Society loans, 1841-1850**

	Loan sizes			Implied weekly repayment		
	£	£	£	£	£	£
	Minimum	Maximum	Mean	Min	Max	Mean
1841	1.89	5.13	3.44	0.09	0.26	0.17
1842	1.86	4.72	3.47	0.09	0.24	0.17
1843	2.13	5.17	3.48	0.11	0.26	0.17
1844	2.43	4.93	3.61	0.12	0.25	0.18
1845	2.70	5.07	3.74	0.13	0.25	0.19
1846	2.70	5.26	3.85	0.14	0.26	0.19
1847	2.37	5.10	3.82	0.12	0.25	0.19
1848	2.31	6.19	3.90	0.12	0.31	0.20
1849	2.31	6.46	3.91	0.12	0.32	0.20
1850	1.66	6.89	3.67	0.08	0.34	0.18

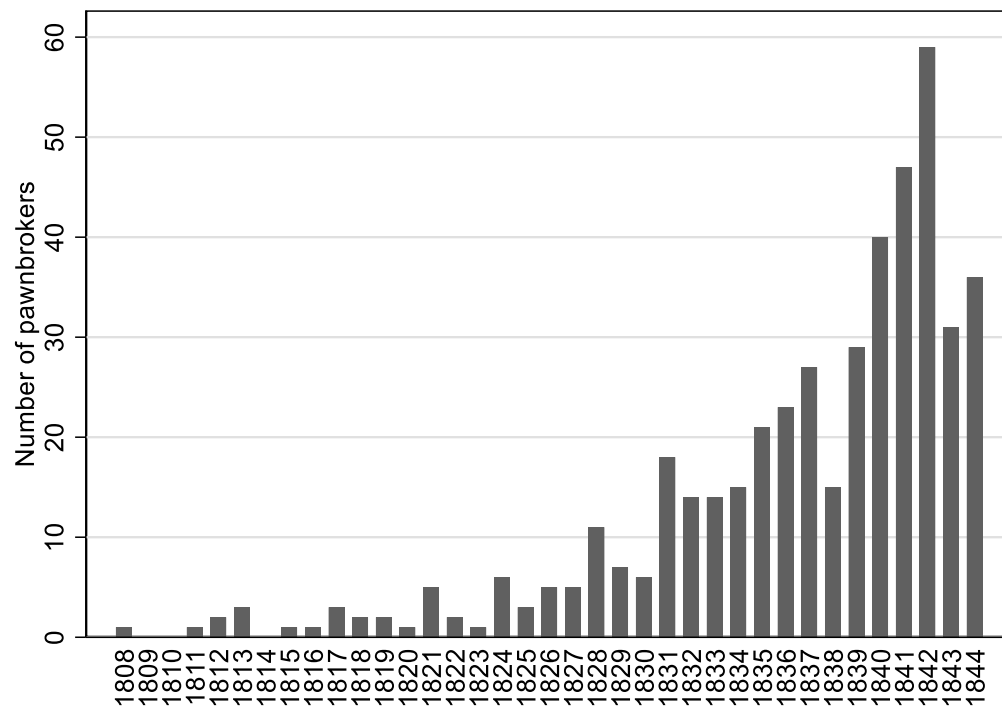
Source: Loan Fund Board annual reports., author calculations



*Appendix:*

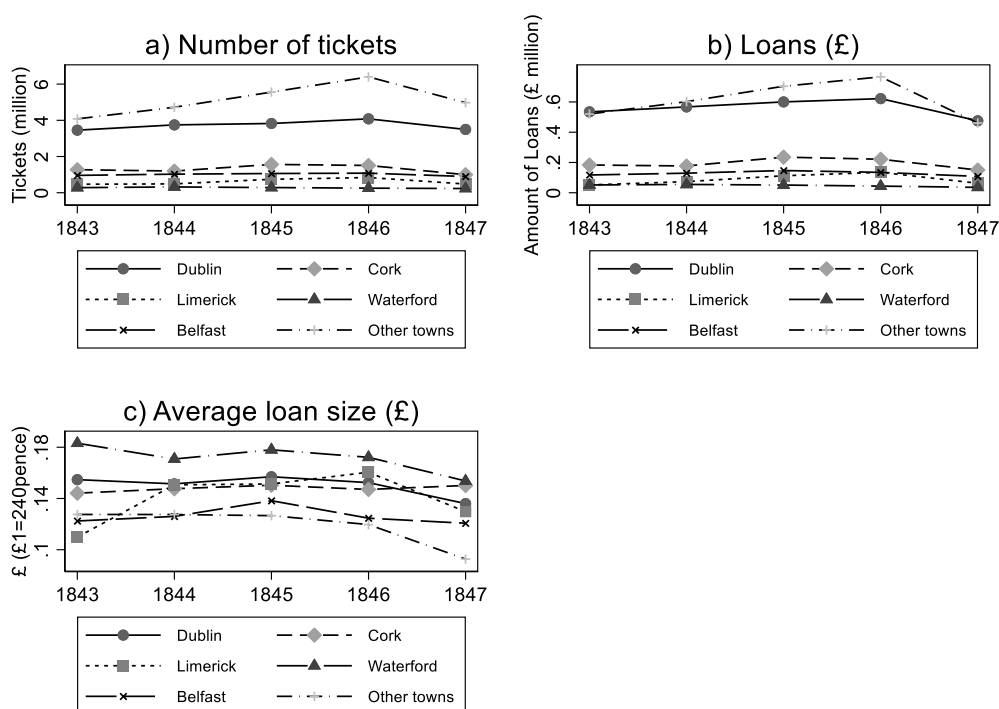
Data summary:

*Figure A1: Pawnbrokers in 1844 by year of registration*



Source: BPP (1845b)

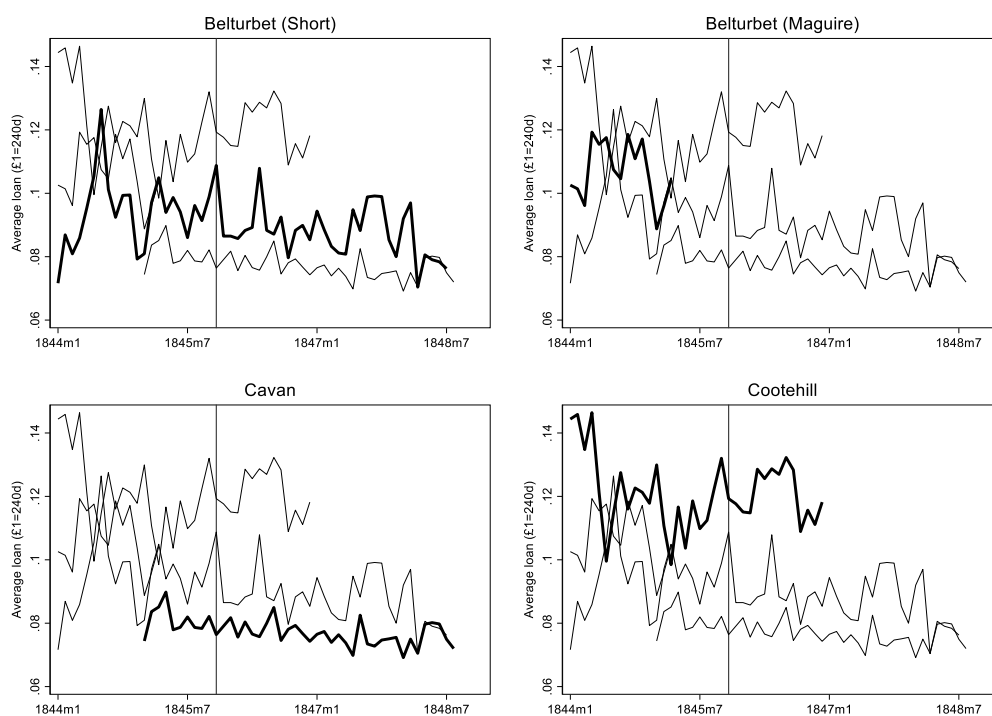
**Figure A2 Annual pawnbroker activity in major cities, 1843-1847**



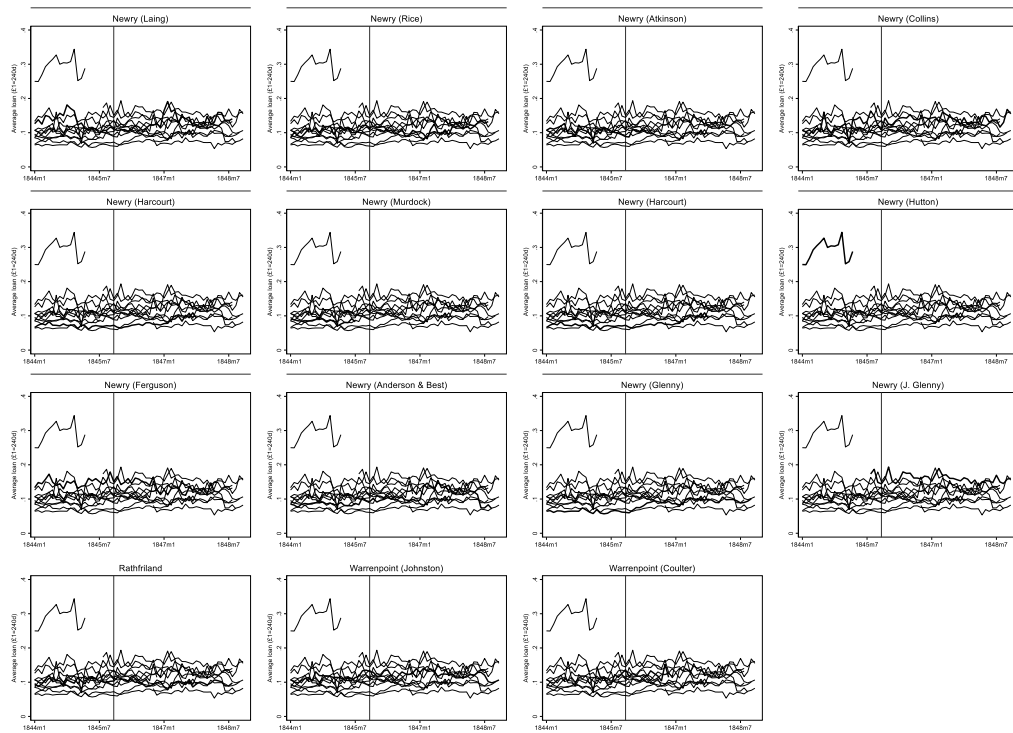
Source: BPP (1849)

**Figure A3: Mean loan sizes by county**

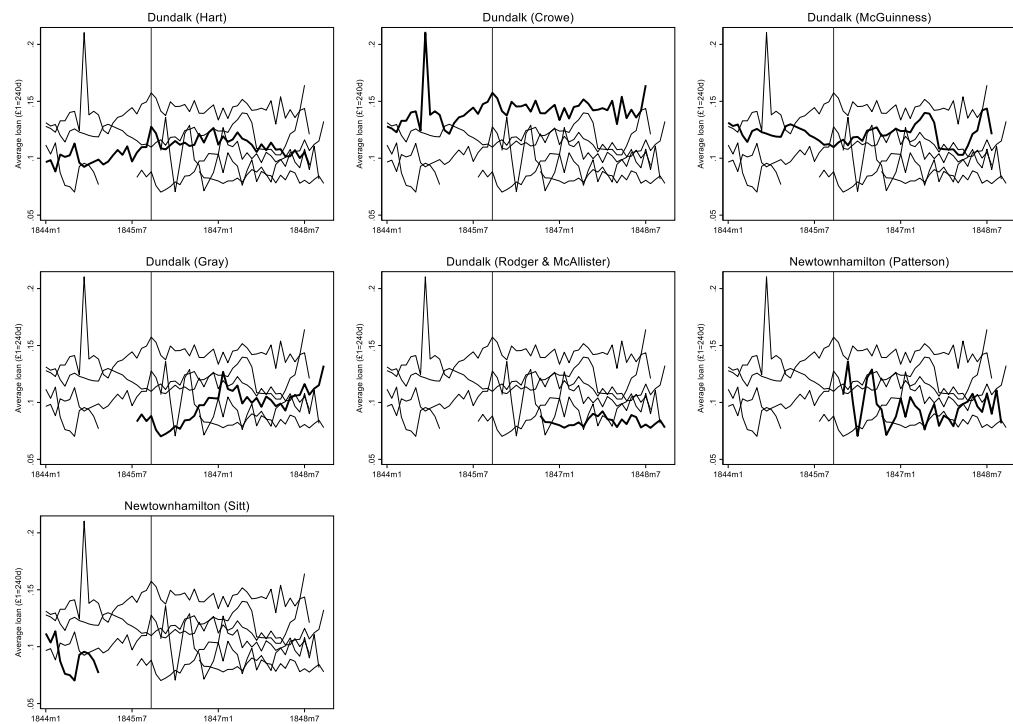
*a) Cavan:*



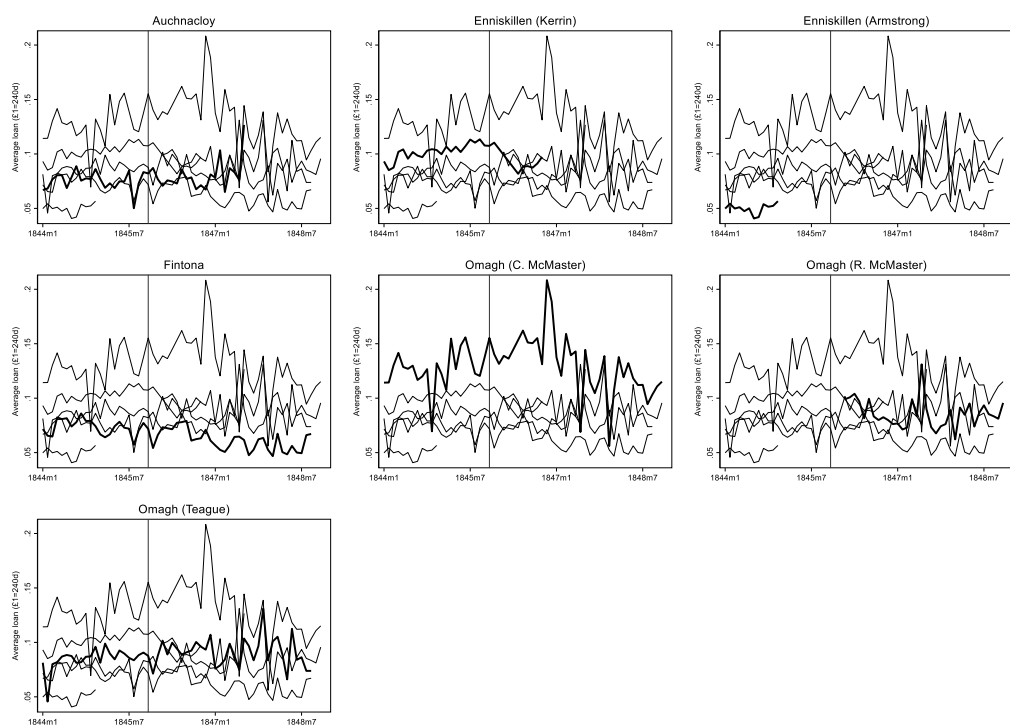
*b) Down:*



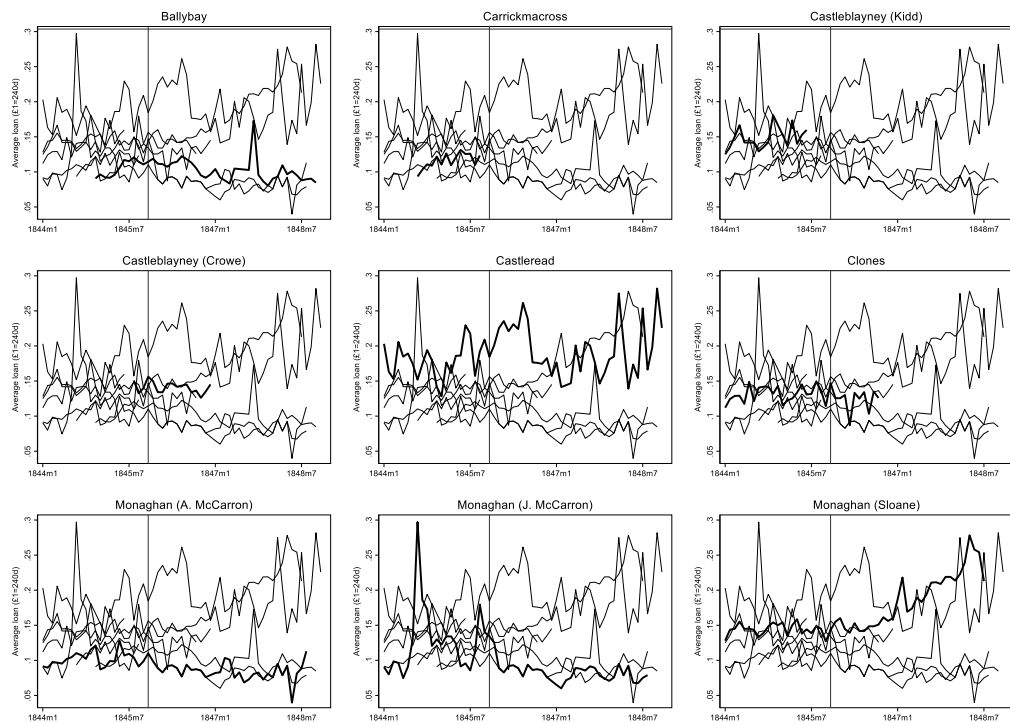
*c) Louth and Armagh*



*d) Tyrone and Fermanagh*



*e) Monaghan & Roscommon*



**Table A1: Annual interest schedule of Irish and English pawnbrokers**

	<i>Ireland</i>			<i>England</i>		
	Interest	Ticket	Total	Interest	Ticket	Total
£	APR	APR	APR	APR	APR	APR
0.05	50.00	8.33	58.33	50.00	0.00	50.00
0.1	50.00	4.17	54.17	25.00	0.00	25.00
0.15	33.33	2.78	36.11	16.67	0.00	16.67
0.2	37.50	2.08	39.58	18.75	0.00	18.75
0.25	30.00	1.67	31.67	20.00	0.83	20.83
0.3	33.33	1.39	34.72	16.67	0.69	17.36
0.35	28.57	1.19	29.76	17.86	0.60	18.45
0.4	31.25	1.04	32.29	18.75	0.52	19.27
0.45	27.78	0.93	28.70	19.44	0.46	19.91
0.5	30.00	0.83	30.83	20.00	0.83	20.83
0.55	27.27	1.52	28.79	18.18	0.76	18.94
0.6	29.17	1.39	30.56	18.75	0.69	19.44
0.65	26.92	1.28	28.21	19.23	0.64	19.87
0.7	28.57	1.19	29.76	19.64	0.60	20.24
0.75	26.67	1.11	27.78	20.00	0.56	20.56
0.8	28.13	1.04	29.17	18.75	0.52	19.27
0.85	26.47	0.98	27.45	19.12	0.49	19.61
0.9	25.00	0.93	25.93	19.44	0.46	19.91
0.95	26.32	0.88	27.19	19.74	0.44	20.18
1	25.00	0.83	25.83	20.00	0.83	20.83
2	25.00	0.83	25.83	20.00	0.42	20.42
5	25.00	0.33	25.33	15.00	0.33	15.33

**Sources:** *Report from the Select Committee on Pawnbroking in Ireland*, pp 223- 225 & (28 Geo. 3) c. 49 [I], section 19.

**Note:** These are maximum legal rates for 12 months as reported in the appendix of the parliamentary enquiry. They were the nominal monthly rate multiplied by the number of months in the calendar year. The interest schedule increased by ‘one halfpenny per month for each and every sum of two shillings’((28 Geo. 3) c. 49 [I], section 19). For sums greater than £10 pawnbrokers could only charge 6 per cent per annum (B.P.P. 1837-38, p. xv). The 1786 pawnbroker act permitted charging for duplicates: 1d for loans not exceeding 10 shillings (£0.50), 2d for loans from 10 shillings (£0.50) not exceeding forty shillings (£2), and 4d for loans exceeding forty shillings (£2) (( 26 Geo. 3) c. 43 [I], section 5). The interest + ticket was included in the original source.

The English interest rates increased following the 1872 pawnbroking act and raised rates to Irish levels.

**Table A2 Description of variables**

Variable	Description	Source
Number of Pawnbrokers	Number of registered pawnbrokers	BPP (1849)
Amount lent (£)	Total amount of money loans (£'s)	BPP (1849)
Amount lent per 100 capita (£)	Amount of loans / population * 100	BPP (1849)
Number of loans (tickets)	Number of loans made (tickets issued)	BPP (1849)
Number of loans per 100 capita	Number of loans made / population * 100	BPP (1849)
Mean loan (£)	Amount of loans / number of loans	BPP (1849)
Population density	Population / barony area	BPP (1843) ; Clarkson et al. (1997)
LFSRLF	Loan Fund Societies & Reproductive Loan Funds	LFS locations: BPP (1844) RLF locations: BPP (1840)
JSBs	Joint Stock Banks	Barrow (1973)
TSBs	Trustee Savings Banks	Pratt (1846)
Illiteracy	Illiteracy	BPP (1843)
Housing	Fourth class housing	BPP (1843)
Poor Law Valuation	Poor law valuation per acre	BPP (1844b), <i>Tenth Annual report of the Poor Law Commissioners</i>
Non-agricultural workforce	Share of workforce not in agriculture	BPP (1843)
City	Dummy variable: 1 if barony = a major town or city.	Defined as Belfast (Co. Antrim & Co. Down), Carrickfergus, Cork City, Drogheda, Dublin City, Galway Town, Kilkenny City, Limerick City, Waterford City
Munster	Dummy variable: 1 if Province = Munster	Munster = Cork, Clare, Kerry, Limerick, Tipperary, Waterford
Connaught	Dummy variable: 1 if Province = Connaught	Connaught = Galway, Leitrim, Mayo, Roscommon, Sligo
Ulster	Dummy variable: 1 if Province = Ulster	Ulster = Antrim, Armagh, Cavan, Donegal, Down, Fermanagh, Londonderry, Monaghan, Tyrone.
Leinster	Dummy variable: 1 if Province = Leinster	Leinster = Carlow, Dublin, Kildare, Kilkenny, Kings, Longford, Louth, Meath, Queens, Westmeath, Wexford, Wicklow

Note: Data georeferenced using methodology from McLaughlin (2009). Barony shapefile from Gregory and Ell (2004)

*Table A3 Summary statistics*

Variable	Including Belfast and Dublin				Excluding Belfast and Dublin			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Number of Pawnbrokers	1.438	4.436	0	42	1.191	3.114	0	39
Amount lent (£)	5007	34322	0	567300	2862	11884	0	176712
Amount lent per 100 capita (£)	12.242	38.615	0	329.889	11.002	35.172	0	329.889
Number of loans (tickets)	36676	229795	0	3746426	22040	81791	0	1196767
Number of loans per 100 capita	97.406	282.788	0	2079.477	88.559	259.220	0	2079.477
Mean loan (£)	0.052	0.086	0	0.489	0.051	0.085	0	0.489
Population density	1.231	5.631	0.099	62.899	0.843	3.339	0.099	34.703
LFSRLF	1.425	1.751	0	11	1.436	1.756	0	11
JSBs	0.491	1.015	0	6	0.467	0.967	0	6
TSBs	0.242	0.503	0	4	0.229	0.457	0	2
Illiteracy	0.520	0.163	0.118	0.910	0.522	0.161	0.118	0.910
Housing	0.344	0.152	0.001	0.849	0.347	0.149	0.005	0.849
Poor Law Valuation	2.267	12.736	0.036	158.417	1.287	4.754	0.036	54.750
Non-agricultural workforce	31.199	13.970	11.771	85.189	30.721	13.126	11.771	78.993
City	0.031	0.174	0	1	0.022	0.147	0	1
Munster	0.239	0.427	0	1	0.241	0.429	0	1
Connaught	0.149	0.357	0	1	0.150	0.358	0	1
Ulster	0.224	0.417	0	1	0.219	0.415	0	1
Leinster	0.388	0.488	0	1	0.389	0.488	0	1

**Table A4 Correlation matrices**

**a) Including Belfast and Dublin**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1.000														
2	0.665	1.000													
3	0.797	0.877	1.000												
4	0.474	0.484	0.397	1.000											
5	0.128	0.096	0.080	0.352	1.000										
6	0.596	0.550	0.528	0.479	0.252	1.000									
7	0.476	0.288	0.336	0.402	0.169	0.518	1.000								
8	0.438	0.388	0.364	0.239	-0.119	0.413	0.425	1.000							
9	-0.159	-0.144	-0.098	-0.045	0.272	-0.181	-0.225	-0.623	1.000						
10	0.440	0.105	0.292	0.087	-0.060	0.158	0.282	0.452	-0.192	1.000					
11	0.504	0.274	0.376	0.087	-0.023	0.231	0.235	0.572	-0.199	0.668	1.000				
12	-0.116	-0.109	-0.045	-0.238	-0.278	-0.178	0.022	0.086	-0.265	0.005	-0.032	1.000			
13	0.145	0.139	0.145	0.298	0.159	0.030	-0.039	-0.174	0.322	-0.008	0.026	-0.447	1.000		
14	0.063	0.059	-0.027	0.063	-0.062	0.218	0.112	0.306	-0.458	0.041	0.033	-0.428	-0.301	1.000	
15	0.731	0.283	0.467	0.138	-0.014	0.316	0.357	0.522	-0.183	0.698	0.800	-0.017	0.025	0.014	1.000

Corresponding variables:

1. Pawnbrokers ; 2.Pawnbrokers per capita; 3. Pawnbroker loans per capita; 4.Mean pawnbroker loans; 5. LFSRLS; 6.JSBs; 7. TSBs; 8. Non-agricultural; 9. Illiteracy; 10. Poor Law valuation; 11.City; 12.Leinster; 13.Munster; 14. Ulster ; 15. Population density



**b) Excluding Belfast and Dublin**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1.000														
2	0.748	1.000													
3	0.785	0.904	1.000												
4	0.533	0.486	0.370	1.000											
5	0.226	0.105	0.109	0.365	1.000										
6	0.561	0.518	0.464	0.466	0.278	1.000									
7	0.347	0.275	0.212	0.370	0.209	0.484	1.000								
8	0.343	0.360	0.283	0.217	-0.105	0.364	0.380	1.000							
9	-0.088	-0.119	-0.047	-0.030	0.267	-0.149	-0.203	-0.611	1.000						
10	0.382	0.181	0.230	0.017	0.002	0.109	0.103	0.508	-0.163	1.000					
11	0.328	0.224	0.258	0.038	0.012	0.127	0.113	0.484	-0.128	0.760	1.000				
12	-0.188	-0.108	-0.064	-0.254	-0.279	-0.193	-0.005	0.095	-0.273	-0.013	-0.032	1.000			
13	0.253	0.154	0.180	0.308	0.157	0.046	-0.026	-0.165	0.318	0.094	0.066	-0.450	1.000		
14	0.041	0.038	-0.047	0.068	-0.058	0.214	0.133	0.293	-0.451	-0.053	-0.028	-0.423	-0.299	1.000	
15	0.393	0.203	0.245	0.031	0.043	0.128	0.112	0.472	-0.107	0.956	0.836	-0.054	0.108	-0.056	1.000

Corresponding variables

1. Pawnbrokers ; 2.Pawnbrokers per capita; 3. Pawnbroker loans per capita; 4.Mean pawnbroker loans; 5. LFSRLS; 6.JSBs; 7. TSBs; 8. Non-agricultural; 9. Illiteracy; 10. Poor Law valuation; 11.City; 12.Leinster; 13.Munster; 14. Ulster ; 15. Population density

**Table A5 Negative Binomial Regression of the number of pawnbrokers in 1844**

**a) Including Belfast and Dublin**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Incidence rate ratios										
Loan Fund Societies	1.21**										
	(0.106)										
Joint Stock Banks		2.73***									
		(0.254)									
Savings Banks			5.18***								
			(1.474)								
Non-agricultural employment				1.05***							
				(0.007)							
Illiteracy					0.07***						
					(0.064)						
Poor Law Valuation per acre						1.05*					
						(0.029)					
City							13.39***				
							(5.658)				
Leinster								0.43*			
								(0.203)			
Munster									2.40***		
									(0.808)		
Ulster										1.52	
										(0.564)	
Population density											1.08***
											(0.015)
Constant	1.03	0.42***	0.63**	0.19***	5.17***	1.05	1.04	1.85***	1.08	1.29	1.01
	(0.280)	(0.056)	(0.113)	(0.057)	(2.651)	(0.135)	(0.127)	(0.336)	(0.257)	(0.266)	(0.122)
Log alpha	4.85***	1.66***	3.16***	3.22***	4.65***	4.21***	3.90***	4.78***	4.76***	5.03***	3.79***
	(0.870)	(0.267)	(0.596)	(0.575)	(0.662)	(0.600)	(0.559)	(0.905)	(0.873)	(0.817)	(0.550)
Observations	322	322	322	322	322	322	322	322	322	322	322
Model chi-square	4.83	116.13	33.48	62.97	8.48	3.65	37.66	3.19	6.74	1.27	28.95

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
df	1	1	1	1	1	1	1	1	1	1	1
Loglikelihood	-448	-390	-422	-424	-445	-439	-435	-447	-446	-450	-434
Pseudo R2	0.0076	0.1351	0.0637	0.0609	0.0135	0.0267	0.0351	0.0097	0.0101	0.002	0.0386

Robust see form in parentheses, \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## b) Excluding Belfast and Dublin

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Incidence rate ratios										
Loan Fund Societies	1.34*** (0.100)										
Joint Stock Banks		2.71*** (0.295)									
Savings Banks			4.73*** (1.249)								
Non-agricultural employment				1.05*** (0.008)							
Illiteracy					0.22* (0.190)						
Poor Law Valuation per acre						1.07*** (0.018)					
City							7.70*** (4.853)				
Leinster								0.28*** (0.077)			
Munster									3.46*** (0.956)		
Ulster										1.27 (0.334)	
Population density											1.10*** (0.026)
Constant	0.69** (0.113)	0.43*** (0.058)	0.62*** (0.112)	0.21*** (0.069)	2.53* (1.206)	0.99 (0.122)	1.04 (0.127)	1.66*** (0.272)	0.75** (0.105)	1.12 (0.211)	1.00 (0.122)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Log alpha	3.78*** (0.611)	1.71*** (0.276)	3.02*** (0.611)	3.22*** (0.581)	4.25*** (0.665)	3.86*** (0.566)	3.90*** (0.565)	3.69*** (0.590)	3.60*** (0.543)	4.34*** (0.724)	3.86*** (0.564)
Observations	319	319	319	319	319	319	319	319	319	319	319
Model chi-square	15.37	83.93	34.59	38.45	3.1	15.76	10.5	21.26	20.1	0.83	15.6

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
df	1	1	1	1	1	1	1	1	1	1	1
Loglikelihood	-420	-380	-408	-411	-427	-422	-422	-418	-418	-428	-422
Pseudo R2	0.0203	0.1145	0.0486	0.0409	0.004	0.0161	0.0147	0.0245	0.0259	0.0007	0.016

**Table A6 OLS Regressions of Pawnbroker loans per capita**

**a) Including Belfast and Dublin**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Loan Fund Societies	1.77*										
	(1.004)										
Joint Stock Banks		20.10***									
		(4.089)									
Savings Banks			25.82***								
			(7.758)								
Non-agricultural employment				1.00***							
				(0.260)							
Illiteracy					-23.23*						
					(13.021)						
Poor Law Valuation per acre						0.89					
						(0.562)					
City							83.57***				
							(29.624)				
Leinster								-3.54			
								(4.168)			
Munster									13.13*		
									(6.942)		
Ulster										-2.54	
										(4.208)	
Population density											3.20***
											(0.593)
Constant	9.72***	2.38**	5.99***	-19.11**	24.31***	10.23***	9.65***	13.61***	9.10***	12.81***	8.30***
	(2.196)	(1.015)	(2.224)	(7.487)	(7.553)	(2.009)	(1.830)	(3.004)	(1.853)	(2.607)	(1.859)
Observations	322	322	322	322	322	322	322	322	322	322	322
R2	0.01	0.28	0.11	0.13	0.01	0.09	0.14	0.00	0.02	0.00	0.22

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**b) Excluding Belfast and Dublin**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Loan Fund Societies	2.17**										
	(0.951)										
Joint Stock Banks		16.88***									
		(3.809)									
Savings Banks			16.33***								
			(4.884)								
Non-agricultural employment				0.76***							
				(0.209)							
Illiteracy					-10.24						
					(9.200)						
Poor Law Valuation per acre						1.70					
						(1.172)					
City							61.79**				
							(29.825)				
Leinster								-4.60			
								(3.644)			
Munster									14.80**		
									(6.839)		
Ulster										-4.01	
										(3.302)	
Population density											2.58*
											(1.558)
Constant	7.88***	3.12***	7.26***	-12.29**	16.35***	8.81***	9.65***	12.79***	7.43***	11.88***	8.82***
	(1.723)	(0.881)	(1.959)	(6.106)	(5.020)	(2.061)	(1.830)	(2.897)	(1.417)	(2.446)	(1.993)
Observations	319	319	319	319	319	319	319	319	319	319	319
R2	0.01	0.22	0.04	0.08	0.00	0.05	0.07	0.00	0.03	0.00	0.06

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table A7 OLS Regressions of mean loans**

**a) Including Belfast and Dublin**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Loan Fund Societies	0.02*** (0.004)										
Joint Stock Banks		0.04*** (0.005)									
Savings Banks			0.07*** (0.010)								
Non-agricultural employment				0.00*** (0.000)							
Illiteracy					-0.02 (0.028)						
Poor Law Valuation per acre						0.00 (0.001)					
City							0.04 (0.030)				
Leinster								-0.04*** (0.009)			
Munster									0.06*** (0.014)		
Ulster										0.01 (0.011)	
Population density											0.00** (0.001)
Constant	0.03*** (0.006)	0.03*** (0.004)	0.04*** (0.005)	0.01 (0.011)	0.06*** (0.015)	0.05*** (0.005)	0.05*** (0.005)	0.07*** (0.007)	0.04*** (0.004)	0.05*** (0.006)	0.05*** (0.005)
Observations	322	322	322	322	322	322	322	322	322	322	322
R2	0.12	0.23	0.16	0.06	0.00	0.01	0.01	0.06	0.09	0.00	0.02

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



**b) Excluding Belfast and Dublin**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Loan Fund Societies	0.02***										
	(0.004)										
Joint Stock Banks		0.04***									
		(0.005)									
Savings Banks			0.07***								
			(0.012)								
Non-agricultural employment				0.00***							
				(0.000)							
Illiteracy					-0.02						
					(0.027)						
Poor Law Valuation per acre						0.00					
						(0.001)					
City							0.02				
							(0.025)				
Leinster								-0.04***			
								(0.008)			
Munster									0.06***		
									(0.014)		
Ulster										0.01	
										(0.011)	
Population density											0.00
											(0.001)
Constant	0.03***	0.03***	0.04***	0.01	0.06***	0.05***	0.05***	0.07***	0.04***	0.05***	0.05***
	(0.006)	(0.004)	(0.005)	(0.010)	(0.014)	(0.005)	(0.005)	(0.007)	(0.004)	(0.005)	(0.005)
Observations	319	319	319	319	319	319	319	319	319	319	319
R2	0.13	0.22	0.14	0.05	0.00	0.00	0.00	0.06	0.09	0.00	0.00

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### ***Spatial regression appendices***

The following provides spatial analysis of pawnbroking activity Spatial Autoregression (SAR) using spatial lags of the dependent variable, Spatial lags of the dependent variables (SLX), and spatial instrumental variable estimators (SPIV).

Spatial models take the form:

$$Y_i = \rho WY_i + \beta X_i + u_i$$

$$Y_i = \rho WX_i + \beta X_i + u_i$$

Where  $W$  is a spatial weight matrix and  $Y_i$  is the dependent variable.  $W_{ij}$  is defined as follows, with a distance decay function.

$$W_{ij} = \begin{cases} \frac{v_j d_{ij}^{-\delta}}{\sum_{j=1}^n v_j d_{ij}^{-\delta}}, & \text{if } d_{ij} < d, i \neq j, \delta > 0 \\ 0, & \text{otherwise} \end{cases}$$

Where  $d$  is distance,  $v_j$  a variable of a region  $j$ , and the parameter  $\delta$  representing a decay function.  $WY$  is endogenous (Elhorst 2014) as it reflects the behaviour in neighbouring regions (Manski 1993). The analysis from tables 6 and 7 are repeated here with the exception that the count variables are linearized by scaling by population. This is a common procedure owing the difficulties applying spatial models to count data (Glaser 2017). There is an issue of direct comparability here with the spatial results and those from the main text. This arises from the use of negative binomial regression models in the main analysis to deal with the issue of overdispersion, while the linear transformation of the count data enables use to use OLS this does not address the issue of dispersion. Moran's test for spatial independence indicate that the number of pawnbrokers per capita and pawnbroker loans per capita are spatially correlated, but that the mean loan size is not. The following report results of OLS, SAR, SXL, and SPIV models. While there is evidence of negative spatial spillovers in SAR models, these are not robust to instrumental variable estimation. In all specifications the results are consistent with those of the main paper.

**Table A8 Spatial Regressions of number of pawnbrokers per capita**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Including Belfast & Dublin				Excluding Belfast and Dublin			
	OLS	SAR	SLX	SPIV	OLS	SAR	SLX	SPIV
Loan Fund Societies	-0.1976 (0.313)	-0.2103 (0.312)	-0.0951 (0.320)	-0.2015 (0.307)	-0.2026 (0.310)	-0.2301 (0.308)	-0.1487 (0.318)	-0.2167 (0.302)
Joint Stock Banks	5.4701*** (1.382)	5.3393*** (1.364)	5.1738*** (1.444)	5.4296*** (1.383)	5.2823*** (1.398)	5.1136*** (1.372)	5.2406*** (1.429)	5.1959*** (1.392)
Savings Banks	-0.8109 (1.657)	-0.9370 (1.674)	-0.4244 (1.644)	-0.8500 (1.635)	-0.4680 (1.749)	-0.5494 (1.737)	-0.5094 (1.698)	-0.5097 (1.708)
Non-agricultural employment	0.2157** (0.086)	0.2293*** (0.087)	0.2269** (0.098)	0.2199** (0.090)	0.2327** (0.094)	0.2479*** (0.094)	0.2257** (0.101)	0.2405** (0.095)
Illiteracy	0.5299 (4.411)	0.6675 (4.431)	4.0565 (4.311)	0.5725 (4.351)	0.2330 (4.329)	0.7451 (4.345)	2.4732 (3.904)	0.4952 (4.284)
Poor Law Valuation per acre	-0.1644*** (0.061)	-0.1307* (0.071)	-0.0972* (0.057)	-0.1540** (0.065)	-0.5139 (0.493)	-0.5242 (0.496)	-0.5705 (0.476)	-0.5192 (0.485)
City	6.8444 (6.055)	6.4151 (6.118)	5.7420 (5.821)	6.7114 (6.002)	4.9014 (5.982)	3.8692 (6.006)	3.4256 (6.049)	4.3729 (5.968)
Leinster	-0.7402 (1.730)	-0.7869 (1.733)	-1.2522 (2.200)	-0.7547 (1.703)	-0.7973 (1.730)	-0.7552 (1.737)	-1.8950 (2.191)	-0.7757 (1.691)
Munster	3.4467* (1.877)	3.9313** (1.981)	3.3077* (1.944)	3.5969* (1.903)	3.5523* (1.876)	4.2869** (1.996)	3.0400 (1.863)	3.9284** (1.904)
Ulster	-2.5189 (1.915)	-2.2603 (1.913)	-2.1940 (2.337)	-2.4388 (1.872)	-3.0248 (1.898)	-2.6704 (1.895)	-2.8071 (2.288)	-2.8434 (1.851)
Population density	0.1192 (0.179)	0.0689 (0.202)	-0.0537 (0.160)	0.1036 (0.184)	0.5249 (0.819)	0.5428 (0.825)	0.6573 (0.797)	0.5340 (0.806)
W. Pawnbrokers (Pop)		-0.1174** (0.056)		-0.0364 (0.091)		-0.1634*** (0.056)		-0.0836 (0.087)
W. Loan Fund Societies			-0.7590 (1.017)				-0.9562 (1.150)	

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
W. Joint Stock Banks			-1.0818				-1.5846	
			(1.109)				(1.085)	
W. Savings Banks			-3.3922				0.2880	
			(2.777)				(4.014)	
W. Non-agricultural employment			0.0451				0.0184	
			(0.088)				(0.115)	
W. Poor Law Valuation per acre			0.0943*				0.1289	
			(0.055)				(0.305)	
Constant	-4.0734	-3.9267	-5.5202	-4.0279	-4.2115	-4.1643	-3.5989	-4.1874
	(4.654)	(4.632)	(4.879)	(4.519)	(4.732)	(4.712)	(5.115)	(4.615)
Observations	322	322	322	322	319	319	319	319
R-squared	0.3836	0.3876	0.3958	0.3857	0.3445	0.3525	0.3530	0.3506

Notes: The prefix W indicates spatial lag of the corresponding variable with a  $\delta$  parameter of 3. WX are used as instruments for WY in SPIV. Robust standard errors in parentheses, \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table A9 Spatial Regressions of number of pawnbroker loans per capita**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Including Belfast & Dublin				Excluding Belfast & Dublin			
	OLS	SAR	SLX	SPIV	OLS	SAR	SLX	SPIV
Loan Fund Societies	-0.0075 (0.008)	-0.0072 (0.008)	-0.0039 (0.008)	-0.0075 (0.008)	-0.0041 (0.008)	-0.0047 (0.008)	-0.0021 (0.008)	-0.0039 (0.008)
Joint Stock Banks	0.1667*** (0.049)	0.1590*** (0.048)	0.1649*** (0.053)	0.1672*** (0.050)	0.1642*** (0.049)	0.1601*** (0.048)	0.1643*** (0.051)	0.1654*** (0.050)
Savings Banks	-0.0054 (0.058)	-0.0084 (0.058)	-0.0097 (0.060)	-0.0052 (0.056)	-0.0364 (0.058)	-0.0397 (0.058)	-0.0346 (0.055)	-0.0354 (0.057)
Non-agricultural employment	0.0028 (0.002)	0.0038* (0.002)	0.0026 (0.003)	0.0027 (0.003)	0.0039 (0.003)	0.0044* (0.002)	0.0035 (0.003)	0.0038 (0.003)
Illiteracy	0.1069 (0.113)	0.1190 (0.113)	0.2086 (0.139)	0.1061 (0.111)	0.1122 (0.108)	0.1408 (0.109)	0.1738 (0.111)	0.1037 (0.110)
Poor Law Valuation per acre	-0.0006 (0.002)	0.0009 (0.002)	0.0002 (0.002)	-0.0007 (0.002)	-0.0003 (0.016)	0.0003 (0.016)	-0.0020 (0.015)	-0.0005 (0.015)
City	0.0105 (0.268)	-0.0265 (0.262)	0.0193 (0.255)	0.0130 (0.265)	0.2976 (0.220)	0.2744 (0.217)	0.2593 (0.221)	0.3045 (0.220)
Leinster	0.0539 (0.040)	0.0560 (0.041)	0.0151 (0.051)	0.0537 (0.039)	0.0452 (0.039)	0.0525 (0.039)	0.0127 (0.050)	0.0430 (0.037)
Munster	0.1295** (0.061)	0.1500** (0.065)	0.1167** (0.055)	0.1282** (0.058)	0.1356** (0.060)	0.1613** (0.068)	0.1101** (0.051)	0.1280** (0.055)
Ulster	-0.0612 (0.044)	-0.0610 (0.044)	-0.0734 (0.055)	-0.0612 (0.043)	-0.0671 (0.043)	-0.0600 (0.043)	-0.0592 (0.050)	-0.0692 (0.042)
Population density	0.0201*** (0.007)	0.0182*** (0.006)	0.0177** (0.009)	0.0203*** (0.006)	0.0011 (0.022)	0.0006 (0.023)	0.0054 (0.021)	0.0013 (0.022)
W. Pawnbrokers (Pop)		-0.1528*** (0.058)		0.0100 (0.098)		-0.1658** (0.067)		0.0495 (0.139)
W. Loan Fund Societies			-0.0189 (0.037)				-0.0333 (0.044)	

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
W. Joint Stock Banks			-0.0586				-0.0359	
			(0.036)				(0.033)	
W. Savings Banks			-0.0066				0.0130	
			(0.085)				(0.112)	
W. Non-agricultural employment			0.0040				-0.0001	
			(0.003)				(0.003)	
W. Poor Law Valuation per acre			0.0000				0.0093	
			(0.002)				(0.013)	
Constant	-0.1527	-0.1682	-0.2519*	-0.1516	-0.1749	-0.1882	-0.1354	-0.1710
	(0.114)	(0.114)	(0.144)	(0.115)	(0.116)	(0.116)	(0.159)	(0.117)
Observations	322	322	322	322	319	319	319	319
R-squared	0.4116	0.4190	0.4205	0.4106	0.2999	0.3081	0.3139	0.2942

Notes: The prefix W indicates spatial lag of the corresponding variable with a  $\delta$  parameter of 3. WX are used as instruments for WY in SPIV. Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table A10 weekly wages in towns**

	Kilkenny		Dublin*		Dublin^		Belfast		Armagh		Castlecoole	
	Craft	General	Craft	General	Craft	General	Craft	General	Craft	General	Craft	General
	£	£	£	£	£	£	£	£	£	£	£	£
c. 1830	-	0.23	0.68	0.45	1.50	0.63	-		0.90	0.28	0.90	0.25
c. 1834	-	0.20	0.625	0.45	1.50	0.63	-	0.35	0.90	0.30	0.90	0.25
c. 1846	-	0.25	0.625	0.45	1.50	0.63	-	0.30	0.90	0.30	0.90	0.25

Note weekly wage estimated from daily wage series. Dublin \* from D'Arcy; Dublin^ from Kennedy & Dowling.

Source: Kennedy & Dowling (1997).

**Table A11 weekly wages in agriculture**

	1833-40	1845
	£	£
Connaught	0.18	0.20
Munster	0.20	0.20
Leinster	0.23	0.24
Ulster	0.27	0.26
Ireland	0.23	0.23

Source: Bowley (1899)

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